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**LEONARD B. MEYER'S SCHEMA THEORY
A REVIEW AND APPLICATION**

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Gregory Allen Wheatley

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Bruce B. Campbell.
Major professor

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LEONARD B. MEYER'S SCHEMA THEORY
A REVIEW AND APPLICATION

By

Gregory Allen Wheatley

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ABSTRACT

LEONARD B. MEYER'S SCHEMA THEORY
A REVIEW AND APPLICATION

By

Gregory Allen Wheatley

Leonard B. Meyer's theories of musical perception and response may be traced as far back as his first book *Emotion and Meaning in Music*. Throughout his career, Meyer has explored ways in which listeners perceive musical patterns, and has sought to identify those patterns which he believes are replicated as archetypes in musical works.

Meyer uses the term schema for archetypal musical patterns. He attempts to show how composers have utilized similar schemas in varying ways. These various instantiations result in the differentiation of style systems.

After reviewing Meyer's theories of style, this study considers several melodic schemas which are isolated by Meyer. Some of these schemas are observed in Schubert's song "Mein!" from *Die Schöne Müllerin*, D. 795.

The concluding chapter reviews the work of three of Meyer's disciples, and discusses some of Meyer's writing subsequent to *Style and Music: Theory, History, and Ideology.*

ACKNOWLEDGMENTS

I would like to express my gratitude and appreciation to several people who have helped make this thesis possible. My thanks are due first to Dr. Bruce Campbell who guided the project, and to my committee of readers, Drs. Theodore Johnson and Charles Smith.

Though not involved directly in this endeavor, Glen Ellis has been an integral part of my academic life, beginning in undergraduate school, where he was one of my major professors. It was he who introduced me to the work of Leonard B. Meyer, and whose enthusiasm for Meyer's theories became contagious.

My thanks are due as well to my friend and colleague Dr. Edwin Childs, who took the time to read and comment on parts of the manuscript, and to offer insightful critique. Lee Hoffner untiringly assisted in the typesetting and formatting of the paper, including the musical examples.

Finally, I would like to thank my wife Jennifer and my three children Stephanie, Rachael, and Ryan. There were many hours when their husband and father was absent, whether physically or mentally, and they bore with it graciously. To them I dedicate this thesis.

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INTRODUCTION

The study of Leonard B. Meyer and his work, which spans more than three decades, proves to be a fascinating and multi-faceted endeavor. While employing many techniques of the music theorist, Meyer is concerned as well with the fields of criticism, aesthetics, and cognitive psychology. This sort of cross-disciplinary approach makes Meyer's work particularly engaging.

The continuing legacy of Meyer's contributions to the field of music theory is evident in the number of theorists whose own work builds on Meyer's seminal undertakings: Eugene Narmour, Robert Hopkins, and Robert Gjerdingen, to name but three. Each of these theorists has dealt with certain aspects of Meyer's theoretical constructs.[1]

The current study is divided into four main parts. In the first, a brief review of Leonard Meyer's work as a theorist/aesthetician is presented. In the second, Meyer's most recent theories on style and style analysis are summarized, especially as they relate to melodic schemas and their instantiations in musical works. Meyer's delineation of musical styles into categories of dialect, idiom, and intraopus style is also considered.

Part three consists of my analysis of Schubert's song "Mein!" (number 11 in *Die Schöne Müllerin*, D. 795). Observation of several schemas and their instantiations will point out ways in which Meyer's theories may be utilized in musical analysis.

Part four includes a brief summary of Leonard Meyer's thinking subsequent to the publication of *Style and Music*. In addition, the work of three of Meyer's disciples is

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[1]Each of the above named authors pursued doctoral studies at either the University of Chicago, or the University of Pennsylvania, during times when Meyer was a faculty member. See Robert Gjerdingen, *A Classic Turn of Phrase: Music and the Psychology of Convention* (Philadelphia: University of Pennsylvania Press, 1988); Robert Hopkins, *Closure and Mahler's Music: The Role of Secondary Parameters* (Philadelphia: University of Pennsylvania Press, 1990); and Eugene Narmour, *Beyond Schenkerism: The Need for Alternatives in Music Analysis* (Chicago: University of Chicago Press, 1977).

summarized. A glossary of terms uniquely associated with Meyer and his followers is also included.

When presenting linear analyses, this study follows Meyer's precedent in labeling such entities *Graph 1*, *Graph 2*, and so on. While identical in nomenclature, these linear "graphs" bear no similarity to the more traditional diagrams of the same name.

CHAPTER ONE

LEONARD B. MEYER AS THEORETICIAN AND AESTHETICIAN

To properly understand the intellectual contribution of Leonard Meyer is to appreciate the diversity of thought that has characterized his career.[1] Indeed, it is somewhat difficult to assign Meyer to any one intellectual category. His work is alternately at home in the disciplines of theory, aesthetics, criticism, and even cognitive psychology or the study of culture.[2]

Leonard Meyer was born in New York in 1918, and seems to have had, musically speaking, a rather unremarkable childhood. He took music lessons from about the age of eight, and reportedly was better at playing by ear than reading music. Perhaps more relevant to Meyer's future endeavors was the love he showed early on for listening to music. Janet Levy tells of the young Meyer listening to family recordings of arias by Caruso and Louise Homer, as well as other operatic excerpts.[3]

In his late teens, Meyer began composing, an activity in which he apparently took a growing interest. Meyer's first composition lessons came in 1938 from Karl Weigl, after Meyer had transferred to Columbia University. The study of composition continued with Stefan Wolpe from 1939 to 1941. Meyer reports that he remembers Wolpe pointing out an

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[1] A chronology of Meyer's major scholarly contributions may be found in Appendix A.

[2] See *Explorations in Music, the Arts, and Ideas: Essays in Honor of Leonard B. Meyer*, ed. Eugene Narmour and Ruth Solie (Stuysevant: Pendragon Press, 1988), p. vii. Much of this chapter's biographical information is taken from this *Festschrift*.

[3] Ibid., pp. 440-441.

"empty interval" in one of his compositions, and suggesting that "it needs to be filled in." This admonition, coupled with his later reading of Gestalt theory, leads Meyer to speculate that this may have been an early influence leading toward his own theory of gap-fill melodies.[4]

After serving in the armed forces during World War II, Meyer returned to academic studies in 1946, enrolling at Columbia University. His work towards the M.A. degree included composition studies with Otto Luening, as well as study with Paul Henry Lang and Curt Sachs.[5] He also studied composition with Aaron Copland, and this led to Meyer's eventual appointment at the University of Chicago. It was Copland who recruited Meyer for the teaching post at the University of Chicago—a position Meyer held from 1946 until 1975.

Meyer's M.A. degree from Columbia University was completed in 1949. At the urging of his Dean at the University of Chicago, Meyer began work on a Ph.D. in 1950, in the Committee on the History of Culture. Here Meyer's fascination with a broad spectrum of disciplines is quite evident. As his interest in composition began to give way to a preoccupation with aesthetics, theory, and the psychology of music, Meyer wrote his dissertation—a study that would eventually become *Emotion and Meaning in Music*.[6]

In *Emotion and Meaning in Music*,[7] Meyer borrowed significantly from the realm of psychology, specifically the Gestalt school with its emphasis on pattern perception.[8] In

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[4] Ibid., p. 443. For more on gap-fill melodies, see chapter four of this study; also see Leonard B. Meyer, *Explaining Music: Essays and Explorations* (Chicago: University of Chicago Press, 1973), pp. 145-157.

[5] Three of Meyer's books include references to Sachs' work. These are *The Rhythmic Structure of Music* (Chicago: University of Chicago Press, 1960), *Emotion and Meaning in Music* (Chicago: University of Chicago Press, 1956), and *Music, the Arts, and Ideas: Patterns and Predictions in Twentieth-Century Culture* (Chicago: University of Chicago Press, 1967).

[6] *Explorations in Music*, p. 448.

[7] Leonard B. Meyer, *Emotion and Meaning in Music* .

[8] "Gestalt psychology . . . made the perception of forms, segregated units in space, and extended units in time a fruitful and legitimate object of scientific study . . . The Gestalt psychologists . . . made organization the fundamental postulate of their psychology: organized wholes are immediately intuited as a result

this book, Meyer adapts several universal laws of human perception that form the basis for our responses to musical events.

Even in the preface to *Emotion and Meaning in Music*, one catches glimpses of intellectual inquiries that would occupy Meyer's thought for years to come:

> The problem of musical meaning and its communication is of particular interest for several reasons. Not only does music use no linguistic signs but, on one level at least, it operates as a closed system, that is, it employs no signs or symbols referring to the non-musical world of objects, concepts, and human desires. Thus the meanings which it imparts differ in important ways from those conveyed by literature, painting, biology, or physics. Unlike a closed, non-referential mathematical system, music is said to communicate emotional and aesthetic meanings as well as purely intellectual ones. This puzzling combination of abstractness with concrete emotional and aesthetic experience can, if understood correctly, perhaps yield useful insights into more general problems of meaning and communication, especially those involving aesthetic experience.[9]

In these opening comments, Meyer was already asking the monumental question of musical semantics: how can a system that employs no extra-systemic symbology—signs referring to a "non-musical world of objects, concepts, and human desires"—be said to communicate aesthetic meaning?

In this light, Meyer set out to formulate a theory of tendency and expectation. Drawing on the work of J.T. MacCurdy, Meyer adopted the theory of emotion that states that "when instinctive reactions are stimulated that do not gain expression . . . affect is most intense.[10] Later, Meyer identified this stimulus with music itself, and claimed that the musical event is responsible for activating, inhibiting, and resolving tendencies (or "instinctive reactions").[11] The response which arises from the inhibition and resolution of these tendencies may be experienced as affect, or as intellectual experience. Which one is present, says Meyer, is determined by the disposition of the listener. Those listeners who

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of dynamical self-distribution of processes in central and peripheral neural mechanisms." See *Handbook of General Psychology*, ed. Benjamin B. Wolman (Englewood Cliffs: Prentice-Hall, 1973), p. 422.

[9] *Emotion and Meaning in Music*, pp. vii-viii.

[10] See J.T. MacCurdy, *The Psychology of Emotion* (New York: Harcourt, Brace, and Co., 1925), p. 475. Quoted in *Emotion and Meaning in Music*, p. 14.

[11] *Emotion and Meaning in Music*, p. 23.

are most "trained" in the aspects of a style will be more likely to objectify the experience, while the uninitiated may tend to respond affectively.[12]

Meyer's seminal thought on music and meaning continued in several essays published between 1957 and 1963.[13] Collectively, these essays formed Part I of *Music, the Arts, and Ideas: Patterns and Predictions in Twentieth-Century Culture*,[14] in which Meyer again took up the problem of meaning in music, this time through the lens of the relatively new construct of information theory.[15] Though the terminology was different, more than twenty-one years later, Meyer still spoke of style as a function of choice. In *Style and Music: Theory, History, and Ideology*, he wrote: "Style is a replication of patterning . . . that results from a *series of choices* made within some set of constraints."[16]

During the winter and spring of 1971, Meyer was Ernst Bloch Professor at the University of California at Berkeley. There he presented five lectures which were to form a large part of his book *Explaining Music: Essays and Explorations*.[17] This volume, in the

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[12] Ibid., pp. 39-40.

[13] These are: "Meaning in Music and Information Theory," in *The Journal of Aesthetics and Art Criticism*, Vol. XV, No. 4, June, 1957; "Some Remarks on Value and Greatness in Music," in *The Journal of Aesthetics and Art Criticism*, Vol. XVII, No. 4, June, 1959; "On Rehearing Music," in *Journal of the American Musicological Society*, Vol. XIV, No. 2, Summer, 1961; "Forgery and the Anthropology of Art," in *The Yale Review*, Vol. LII, No. 2, Winter, 1963; and "The End of the Renaissance?" in *The Hudson Review*, Vol. VI, No. 2, Summer, 1963.

[14] Leonard B. Meyer, *Music, the Arts, and Ideas: Patterns and Predictions in Twentieth-Century Culture* (Chicago: University of Chicago Press, 1967).

[15] Information, in communication theory, "is an indication of the number of possible choices of messages." (*Random House Dictionary of the English Language*. New York: Random House, 1967) Information theory was first postulated by Claude Shannon and Warren Weaver in *The Mathematical Theory of Communication* (Urbana: University of Illinois Press, 1949). The authors suggested that this new theory was broad enough to take in other forms of communication, including music. See, for example, pp. 3-4, and p. 12. In adopting the grid of information theory, Meyer was stressing the fact that musical style is a "complex system of probabilities." See *Music, the Arts, and Ideas*, p. 8.

[16] Leonard B. Meyer, *Style and Music: Theory, History, and Ideology*. (Philadelphia: University of Pennsylvania Press, 1989), p. 3 (italics added).

[17] In addition to the chapters that had their origins as lectures, chapter two began as a journal article. See "Critical Analysis and Performance: The Theme of Mozart's A-Major Piano Sonata," in *New Literary History*, II/3, 1971, pp. 461-476.

words of Eugene Narmour and Ruth Solie, is akin to a "codification of certain analytical ideas."[18] Here Meyer was concerned with "objectifying the concept of expectation" that he had developed in his earliest works.[19] Part II of *Explaining Music* consists of a sort of compendium of melodic schemas which Meyer believes form implicative patterns.[20] He identified several archetypal melodic schemas: gap-fill and triadic (both disjunct patterns), as well as complementary, axial, and changing-note (symmetrical patterns).[21] These schemas form what Meyer believes are class-like entities "in terms of which particular musical events are perceived and comprehended."[22] And, in *Explaining Music*, Meyer synthesized these constructs with his earlier work on affective response, stating that "the delight of intelligent mental play and the excitement of its complement, affective experience, are significantly dependent upon the deviation of a particular musical event from the archetype or schema of which it is an instance."[23]

In 1975, Meyer left his post at the University of Chicago, accepting a faculty position at the University of Pennsylvania. Here his broad interests continued to thrust him, not only into musical endeavors, but into the field of psychology as well. It was during this time that Meyer collaborated with Burton Rosner on two studies in melodic perception. The influence of Rosner's experimental approach may be seen in both studies.[24]

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[18] *Explorations in Music, the Arts, and Ideas*, p. ix.

[19] Ibid.

[20] "An implicative relationship is one in which an event . . . is patterned in such a way that reasonable inferences can be made both about its connections with preceding events and about how the event itself might be continued and perhaps reach closure and stability." See *Explaining Music*, p. 110.

[21] *Explaining Music*, pp. 131-196.

[22] Ibid., p. 213.

[23] Ibid. Archetypes and schemas are discussed in greater detail in chapter four of the present study.

[24] Burton Rosner and Leonard B. Meyer, "Melodic Processes and the Perception of Music," in *The Psychology of Music*, ed. Diana Deutsch (New York: Academic Press, 1982), pp. 317-341; also see Rosner and Meyer, "The Perceptual Roles of Melodic Process, Contour, and Form," in *Music Perception*, Vol. 4, No. 1, Fall, 1986.

At present, Meyer is Professor Emeritus at the University of Pennsylvania. Chapter six of this study presents a brief summary of his work subsequent to his latest book, *Style and Music: Theory, History, and Ideology.*

CHAPTER TWO

STYLISTIC CONSTRAINTS IN MUSIC LAWS

RULES AND STRATEGIES

Musical Style: Choice and Replication

Style, according to Meyer, may be defined as a "replication of patterning, whether in human behavior or in the artifacts produced by human behavior, that results from a series of choices made within some set of constraints."[1] In this definition, the element of human choice becomes paramount, for without it we find ourselves no longer in the arena of human artifacts, but in the world of predeterminate activity, about which we have no choice.[2]

Meyer's theory of style takes as its starting point the axiom that artists (whether painters, sculptors, or composers) choose certain courses of action while rejecting others. Indeed, this principle is inherent in Meyer's definition cited above: the replication of patterning that occurs to create a style system is present precisely because composers do choose some elements while rejecting others.

An example will illustrate this point. When Beethoven composed the first movement of his *Piano Concerto No. 4 in G*, Op. 58, he chose to begin with solo piano. In so doing, he necessarily rejected any alternate mode of initiation. He might have begun with piano and orchestra. Or he might have given the opening statement of the theme to the orchestra

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[1] ***Style and Music***, p. 3.

[2] An example of this involuntary activity is breathing. See ***Style and Music***, p. 4.

alone, as he had done in the first three piano concerti. This decision would have placed the beginning more squarely in the camp of traditional concerto openings. But the point is that Beethoven was free to choose the solo piano as a mode of initiation. The choice was made from within a set of stylistic possibilities, and although it was not the most probable one (as witness the first three concerto openings), it was a valid choice. Once made, this choice had implications for future concerti. Would the next one begin in a similar fashion? Or would it revert to the more traditional schema?

The second important aspect of Meyer's definition of style is that style is essentially a system of "replicated patternings." As early as *Emotion and Meaning in Music* (1956), Meyer had asserted that styles are "basically complex systems of probability relationships."[3] In *Music, the Arts, and Ideas* (1967), Meyer repeated his belief that "style is a finite array of interdependent melodic, rhythmic, harmonic, timbral, textural, and formal relationships and processes."[4]

These replicated patternings form the stuff of which style is made. Conversely, to comprehend a particular musical style, we must be aware (whether consciously or unconsciously) of the replicated, class-like events of which it is constructed, and if we are to be responsive listeners/performers, must have previously internalized these patternings to some degree.

Again, let us illustrate with an example. One stylistic trait of a major-key Classical sonata-allegro movement is that it tends to polarize the tonic-dominant relationship. Why is it that we are able to make this generalization? It is precisely because, of the vast repertory of Classical sonata-allegro movements, the great majority are constructed in just such a manner. And, because this trait (tonic-dominant polarization) has been repli-

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[3]*Emotion and Meaning in Music*, p. 54.

[4]*Music, the Arts, and Ideas*, p. 116.

cated so frequently in the repertory, it has become assimilated into our concept of the Classical style.[5]

The third important element in Meyer's definition of style is to be found in the assertion that a composer's choices are made within a set of constraints. If the composer exercises free will, compositionally speaking, choosing to incorporate some musical elements while rejecting others, still he does so within certain boundaries. What is it that delimits the composer's alternatives? For Meyer, there are two broad categories of stylistic constraints that come to bear on the matter. Together, these two groups of influences determine the boundaries within which an artist chooses compositional alternatives. They are 1) psychological constraints and 2) cultural constraints.

Psychological Constraints: Laws

In his first book, *Emotion and Meaning in Music*, Meyer set forth a theory of musical perception based largely on principles found in Gestalt psychology. Drawing from Gestaltists such as Kurt Koffka and Max Wertheimer, Meyer borrowed certain Gestalt axioms and applied them to musical perception.[6] The first and primary of these is the Law of Prägnanz, which states that the organization of a group of stimuli "will always be as 'good' as the prevailing conditions allow. In this definition, the term 'good' is undefined. It embraces such properties as regularity, symmetry, simplicity, and others . . ."[7]

Corollary to the Law of Prägnanz are several other principles of organization and

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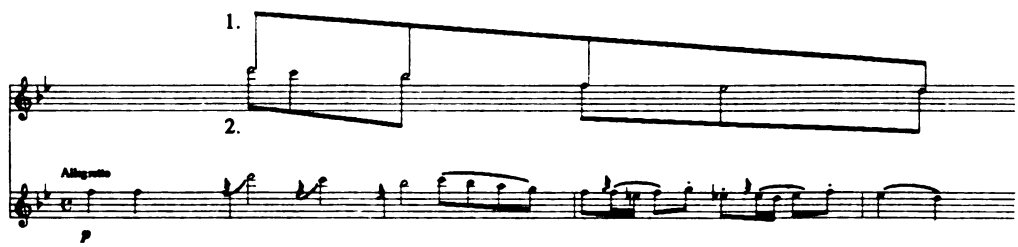
[5]It is informative to be reminded that, contrary to what seems to be some false teaching on the subject, there exists no such thing as a Platonic sonata-allegro form. We do injury to analysis by force-fitting a work into some predetermined mold. Rather, as explained above, our concept of the sonata-allegro form has evolved out of the replicated patternings of hundreds of representative works. In this regard, see *Emotion and Meaning in Music*, pp. 57-60.

[6]Gestalt psychologists were (and are) concerned with perception which is "determined by context, configuration, and meaning rather than by simple accumulation of sensory elements." See *Grolier's Multimedia Encyclopedia, online edition* (Grolier Electronic Publishing, Danbury, CT, 1996). For seminal work in this field, see Kurt Koffka, *Principles of Gestalt Psychology* (New York: Harcourt, Brace and Co., 1935), and Max Wertheimer, *Productive Thinking* (New York: Harper and Bros., 1945).

[7]*Productive Thinking*, p. 110.

pattern perception. Four of them are briefly enumerated:

1. *The Law of Good Continuation.* This axiom states that, all else being equal, a pattern will tend to continue itself in its initial mode of operation. A melodic process, once begun, will tend to continue in the same mode. Thus, in Example 2.1,[8] the triadic process begun by the motion D^6-$B\flat^5$ is best completed by the continuation of that motion to F^5, and on to D^5 (Graph 1). In addition, the linear descent begun in measure one is resumed in measure three, and continuation to D^5 in measure four is made more compelling by the motivic sequence in measure three (Graph 2). Meyer's inclusion of this principle has profound effects on his later theories of implicative relationships and musical process.



EXAMPLE 2.1. Mozart, *Trio for Piano, Violin and Cello*, K. 502, iii

2. *The Law of Closedness (Closure).* According to Gestalt theory, "where one shape is closed, and the other is open or encloses the first, it is the former that is perceived."[9] This axiom has obvious implications for musical form and its articulation in various morphological units.

3. *The Law of Proximity.* "Where dots or small patches can be seen as the outline of more than one object, then proximity determines which sets are perceived as lying on a

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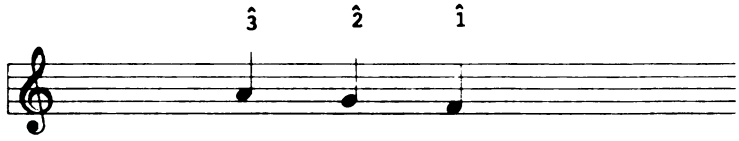
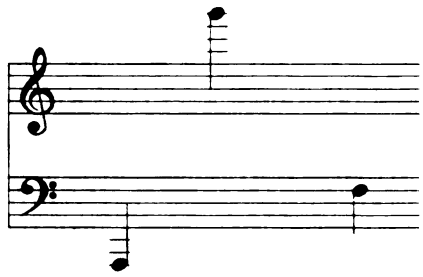
[8]All examples not otherwise attributed are those of the author.

[9]Edward Carterette and Morton Friedman, editors, *Handbook of Perception, Volume One* (New York: Academic Press, 1974), p. 185.

single line or contour."[10] This principle seems to be a sub-category under what Meyer calls the Law of Good Shape. Palpable, well-formed units tend to be those whose elements are in proximate relation to one another. Hence, the proximity of the pitches in Example 2.2 (a) causes them to be perceived as a pattern, perhaps even suggestive of the archetypal $\hat{3}$-$\hat{2}$-$\hat{1}$, while the disjunct nature of the pitches in Example 2.2 (b) is not conducive to patterning.



EXAMPLE 2.2 (a)



EXAMPLE 2.2 (b)

4. *The Law of Symmetry.* If two shapes are present, and the first is more symmetrically formed than the second, it is the first that will be perceived.[11] This axiom, like the Law of Proximity, seems to be subsumed under Meyer's Law of Good Shape. This sort of symmetry is an obvious feature of much of the antecedent-consequent phraseology prevalent in the Classical period.

These principles of perception form the basis of Meyer's category of stylistic laws. For Meyer, these laws are at the apex of a stylistic hierarchy, and are trans-cultural in

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[10]Ibid., p. 183.

[11]Ibid., pp. 184-185.

nature. This is because of their basis in human perception: since humans everywhere presumably are subject to the principles stated above, we may assume that, regardless of culture, each of them will be limited in their responses by these very laws.

To illustrate the operation of perceptual laws under differing style systems, consider the contrast of two representative pieces, one Baroque and the other Classical. Given the universal law of closure, a listener will sense a lack of completeness if a work by Bach ends after moving to the dominant, but before returning to the tonic. The same listener will also sense incompleteness if a Mozart symphony is cut short during the development section. The two works, being of divergent style periods, are governed by different stylistic constraints (e.g., one would not normally expect to find antecedent-consequent phraseology in the Bach piece), but both are subject to cognitive laws of completion and closure. So, while the works achieve closure in differing ways, there is no doubt that the element of closure is equally important in both.

Cultural Constraints: Rules and Strategies

This brings us to Meyer's second broad category of influences: those that are cultural in nature. These constraints are learned, and differ from laws in that they vary across cultural and historical boundaries. Cultural constraints may be divided into sub-categories: rules and strategies.

Rules

Rules are those constraints that "specify the permissible material means of a musical style."[12] That is, they are delimiting elements of a given style system. In this regard, they may be viewed as somewhat analogous to rules which govern the play of games.[13]

Examples of constraints on the level of rules include the principles governing coun-

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[12]*Style and Music*, p. 17.

[13]Ibid., p. 11.

terpoint, the general practice of voice-leading, and the harmonic practice of the eighteenth century (including harmonic progression and the tonic-dominant axis).

At this point, we must ask the question: how are the rules of a style learned? If it is a matter of formal instruction, then presumably the only listeners/performers who really "understand" music are those who have studied the subject in some formal sense of the word.

This is obviously not the case. For there are many who seem to respond to musical experiences who have never studied formally. For Meyer, the competent listener is one who has, by listening and/or performing, internalized to one degree or another, the various aspects of a musical style system. Competence, then, is based on ability to respond to musical stimuli, and not on formal training.[14]

Rules, in Meyer's taxonomy, are of three categorical varieties: 1) dependency rules, 2) contextual rules, and 3) syntactic rules.[15]

Dependency rules are those constraints that owe their existence to the syntactic rules of another musical parameter.[16] Meyer cites the example of the syntactification of harmony. In the repertory of organum, one can not accurately speak of harmony. Organum was conceived in both linear and intervallic terms. But obviously simultaneities did occur, and as they did, their structure may be said to have been governed by dependency rules; i.e., the simultaneities resulted because of the rules of the melodic parameter.

The next category is that of contextual rules. These rules are the result of some level

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[14]*Emotion and Meaning in Music*, p. 110.

[15]Ibid., pp. 17-19.

[16]The term "syntax" has been borrowed from the field of linguistics, and denotes that aspect of music that is processive in nature. That is, it deals with the parameters of music that are not only capable of being ordered, but indeed owe their meaning to that ordering. Meyer calls parameters such as melody, harmony, and rhythm syntactic parameters, because they can be segmented in such a way that stability/instability relationships imply definite closural points. In this regard, musical syntax is related to Meyer's concept of implication/realization. Conversely, those elements of music that are organized by quantity (tempi, dynamics, timbre, texture) are statistical parameters. Meyer further refers to syntactical parameters as primary, and to statistical parameters as secondary. See *Style and Music*, pp. 14-16.

of standardization of a parameter, but not to the point of full syntactification. To continue Meyer's example of harmony, we may speak of the partial standardization of certain harmonies in later Medieval music. Although certain successions became common, they often remained the function of, and subservient to, other parameters—namely, melody.[17]

The third category is that of syntactic rules. The obvious example is harmony in the so-called common-practice period. During this time[18] the harmonic parameter took on full autonomy, or to put it differently, became fully syntactic. The tonic-dominant relationship became the axis around which the musical universe revolved, and root motion by fifths became characteristic.

Syntactic rules are important because they define sets of possible relationships within a parameter. In turn, these possible relationships arrange themselves into probability relationships which are internalized by a listener/performer competent in the style. Once internalized, the network of probability relationships serves to create expectations which are either realized or denied. This realization/denial model forms the basis for Meyer's theories of affective response.[19]

Strategies

If rules make up a general category of stylistic constraints, then strategies are the particulars. Indeed, says Meyer, there are a finite number of rules governing a style system, but an infinite number of possible strategies.[20]

Strategies are the compositional choices made within some rule-governed constraint

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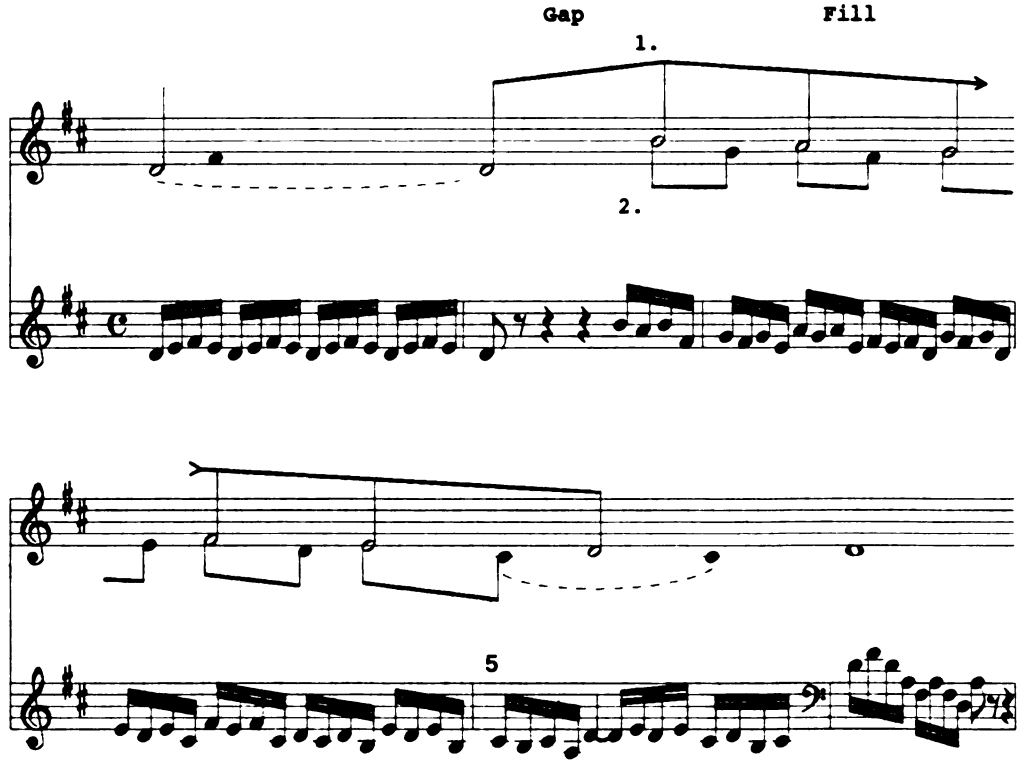
[17]*Style and Music*, p. 18.

[18]Meyer posits an Age of Tonality from approximately 1600 to 1918. Throughout this period, the same set of rules were operative, but found their instantiation in varying strategies. This obviously provides a very broad stylistic paradigm, spanning several more traditionally-defined style periods. See *Style and Music*, p. 20.

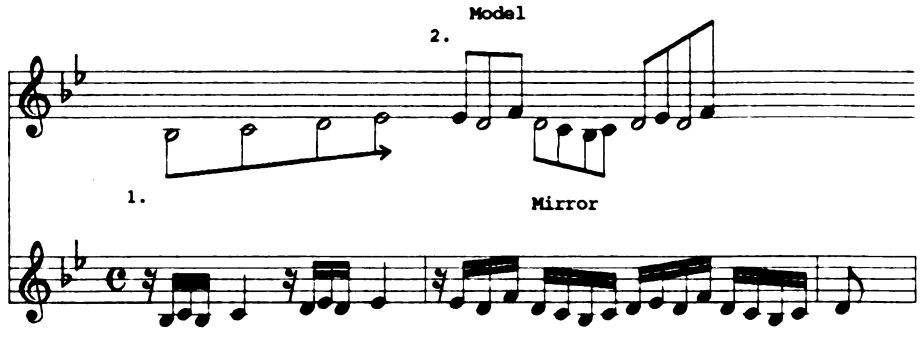
[19]*Emotion and Meaning in Music*, pp. 23-32.

[20]*Style and Music*, p. 20.

system. Using Meyer's Age of Tonality as a framework, we may say that from approximately 1600 to 1918, one set of rules, generally speaking, was in operation. Thus, the rules controlling counterpoint for J.S. Bach are the same as those binding on Brahms. An examination of fugue subjects by each composer will illustrate how the same rules of counterpoint may be instantiated in differing ways.



EXAMPLE 2.3 (a). J.S.Bach *Fugue in D Major*, BWV 532.



EXAMPLE 2.3 (b). Brahms, *Variations and Fugue on a Theme by Händel*, Op. 24.

The two fugue subjects are shown in Example 2.3. The first is from Bach's *Fugue in D major*, BWV 532. The second is from Brahms' *Variations and Fugue on a Theme by Händel*, Op. 24.

We note first that both subjects possess a patent shape. This palpability is of paramount importance for a fugue subject's recognition throughout an extended composition. In addition, both subjects are initially presented alone, another expected trait in a fugue texture.

In utilizing the prevailing rules of tonality, both Bach and Brahms created melodies that are firmly anchored tonally. Thus, because of the repetition of the keynote (D^4 in Bach, $B\flat^3$ in Brahms), as well as the scalar relationships prominent in the foreground, both melodies "obey" the rules of the common-practice period.

Let us now examine the differences in strategic realization between the Bach and the Brahms subjects. The primary difference would seem to lie in the fact that the Bach example is considerably more processive[21] than the Brahms.

At first glance, the Bach subject may appear to begin in a rather redundant fashion. In fact, the first four beats involve nothing but repetition of a four-note pattern. In contrast to this, the Brahms subject seems to imply movement, since in the space of four beats, it has moved upward by a perfect fourth.

But beginning in measure two, the Bach subject begins to demonstrate its processive qualities. Graph 1 is a representation of the Bach subject's linear descent from B^4 in measure two to the arrival at D^4 on the second beat of measure five. In addition, there is a subsidiary motion of interlocking thirds embedded in this linear descent (Graph 2). After reaching the goal of the structural D^4 in measure five, the goal is reinforced through an archetypal cadential figure, followed by a closing figuration (measure six).

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[21]For more on the concept of process, see *Explaining Music*, p. 91. Here Meyer states that processive themes "have form in the sense of having a beginning or generative event, a middle or process which moves toward some goal, and an end—the arrival at some point of closure." This definition would certainly seem to apply to the Bach subject.

It should also be observed that there is a classic case of process convergence in the Bach subject.[22] For in measure five, the linear descent process (Graph 1) and the interlocking thirds process (Graph 2) meet, converging on D^4. This convergence is made all the more definite and satisfying by the agogic accent on D^4, and the cadential neighboring-tone activity.[23]

In addition to the linear process and the interlocking thirds, one more important aspect of the Bach melody is evident. The gap created by the leap from D^4 to B^4 is filled by the descending line A^4-D^4. This is a clear example of a gap-fill melody. It should be noted that, although the descending structural tones fall on what would ordinarily be weak beats (beats two and four), in this case they are heard as strong beats. The reason seems to be that the process is begun on a weak beat (beat four of measure two); thus, the listener expects that this pattern will continue; i.e. the structural pitches will fall on beats two and four.[24]

The Brahms subject, after beginning in a somewhat processive manner, becomes in measure two, what Meyer calls an axial melody.[25] Graph 2 illustrates the salient features of the axial nature of measure two, including the model/mirror phenomenon. In short, where the Bach subject creates strong implications for melodic process, and proceeds to realize those implications, the Brahms subject gives up any initial processive implications, and becomes axial.

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[22]*Explaining Music*, pp. 140-141.

[23]It is also instructive to observe that, later in the exposition, this interlocking thirds schema is reinforced by the lower voices (mss. 15-19). What was implicit in a melodic schema now becomes explicit in a harmonic one.

[24]See *Emotion and Meaning in Music*, pp. 83ff. For more on gap-fill melodies, see chapter four of this study.

[25]Though a small-scale example, this patterning may, nonetheless, be called axial. According to Meyer, these schemas consist of "a main tone embellished by neighbor-notes above and below." They consist of a model and its mirror. See *Explaining Music*, p. 183. It is interesting to note that Meyer observes many examples of axial melodies in the Romantic repertory, and almost none in the Classical. See *Style and Music*, pp. 241-244 and *Explaining Music*, p. 184. Also see chapter four of this study.

This example serves to illustrate how two composers, using the same set of compositional rules (those governing tonal fugue subjects) but varying strategies, produce differing musical events. This fact leads to the discussion of dialect, idiom, and intraopus style.

CHAPTER THREE
MUSICAL STYLE ANALYSIS DIALECT IDIOM AND INTRAOPUS STYLE

Before we consider Meyer's categories of musical dialect, idiom, and intraopus style, a brief examination of the concepts of style analysis, criticism, and theory may be helpful.

Style Analysis and Criticism

Style analysis, as a discipline, involves the observation of replicated, class-like events that define and determine a musical style.[1] This observation, as noted by Meyer, involves "brute facts."[2] Examples of these raw data include the statistical counting of deceptive cadences in the Beethoven Quartets, or the number of times the Neapolitan chord appears in Schubert's works. For Meyer, these data are the beginning, but only the beginning of true style analysis.

To be worthy of the description style analysis, the observation of brute facts must move next to some sort of hypotheses about the rules and strategies that constrain the choices made by a composer (or group of composers).[3] Style analysis, in its authentic

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[1] ***Style and Music***, p. 26.

[2] ***Style and Music***, p. 11. The term ***brute facts*** was borrowed by Meyer from John R. Searle. See ***Speech Acts: An Essay in the Philosophy of Language*** (Cambridge, 1969).

[3] ***Style and Music***, p. 26.

form, is inductive in nature; i.e., it moves from the observation of particulars to postulation about the general.

Style analysis may occur on a number of levels. For example, the style analyst may be concerned with replicated events within the set of late Beethoven quartets. Or, he may be interested in the recurrent events found in the works of the Viennese Classical school. In either case, his interest lies in recurrent events, and in forming some sort of hypotheses about the rules and strategies responsible for their occurrence.

In contrast to style analysis, musical criticism attempts to point out what is unique about a particular work. In this regard, the critic is much more concerned about the processive aspect of a work. It will be noted, however, that the critic is dependent, to a great degree, upon style analysis for his foundation. For, as Meyer observes, to evaluate a work critically presupposes a knowledge of the particular style being utilized.[4]

Criticism, then, seeks to bridge the gap between rules and strategies.[5] It asks the question: why is this particular schema[6] instantiated in this particular way *in this work*? An example will serve to clarify the contrast between style analysis and criticism.

Beethoven's use of anacrustic gestures as thematic material is frequent in his symphonic works. One such device is found in the fourth movement of his *Symphony No. 2*, Op. 36. Another instance is the opening of the third movement of Beethoven's *Symphony No. 5*, Op. 67. Example 3.1 shows the device's use in these two works.

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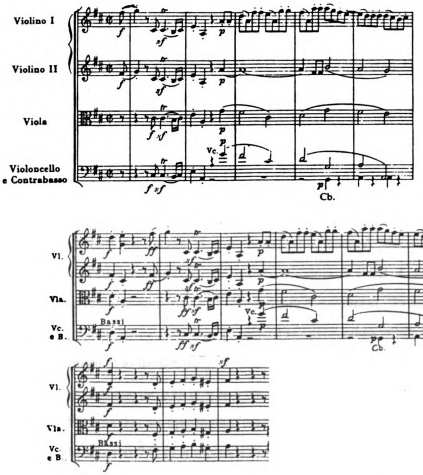
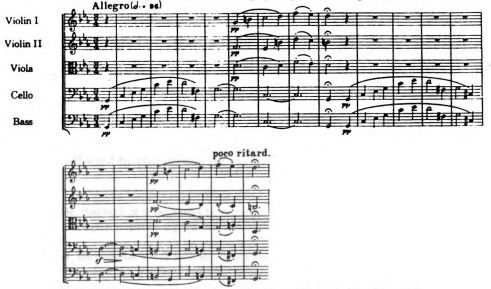
[4] Ibid., p. 33.

[5] *Explaining Music*, p. 14.

[6] The term *schema* is used by Meyer to denote a rule-based patterning that forms the basis for a variety of realizations (instantiations). For more on schemas, see chapter four of this study.



EXAMPLE 3.1(a). Beethoven, *Symphony No. 2*, Op. 36, iv.



EXAMPLE 3.1(b). Beethoven, *Symphony No. 5*, Op.67, iii.

The style analyst might view these two instances as members of a larger class of events called "anacrustic beginnings." Such devices, the analyst would point out, are frequent in the works of Beethoven. Specifically, Beethoven's preference seems to be for their inclusion in final movements of some of his symphonies.

On the heels of this observation, the analysis might well move to some sort of hypothesis about *why* this is so. It would be pointed out that both cases under observation function as dominant preparations; i.e., they are extended dominant upbeats. One hypothesis, then, might state that because they are dominant in function, such anacruses are best suited to begin a final movement. Put differently, the surprise effect of such a gesture would not achieve the same purpose if it opened a first movement.[7] To use a linguistic metaphor, the dominant anacrusis may be viewed as interrogatory, while the tonic opening may be thought of as declamatory.[8]

Now let us examine the way in which the critic might approach the finale of *Symphony No. 2*. We note that the opening half-step gesture (f♯-g) is tonally ambiguous. Is this figure to be taken as $\hat{7}$-$\hat{8}$, in which case the tonality of the movement would be construed as G? The second part of the gesture dispels the ambiguity: the tritone leap from G to C♯, then the half-cadence make it clear that this is one of Beethoven's trademark anacrustic beginnings, and that the tonality is, in fact, D.

The critic might now point out the fact that Beethoven's choice of the anacrustic beginning has an ongoing effect on morphological lengths in the movement. Example 3.2 shows an alternative opening, consisting of a regular eight-measure antecedent/consequent schema, effected by eliminating the two anacruses (mss. 1 and 2, as well as mss. 7

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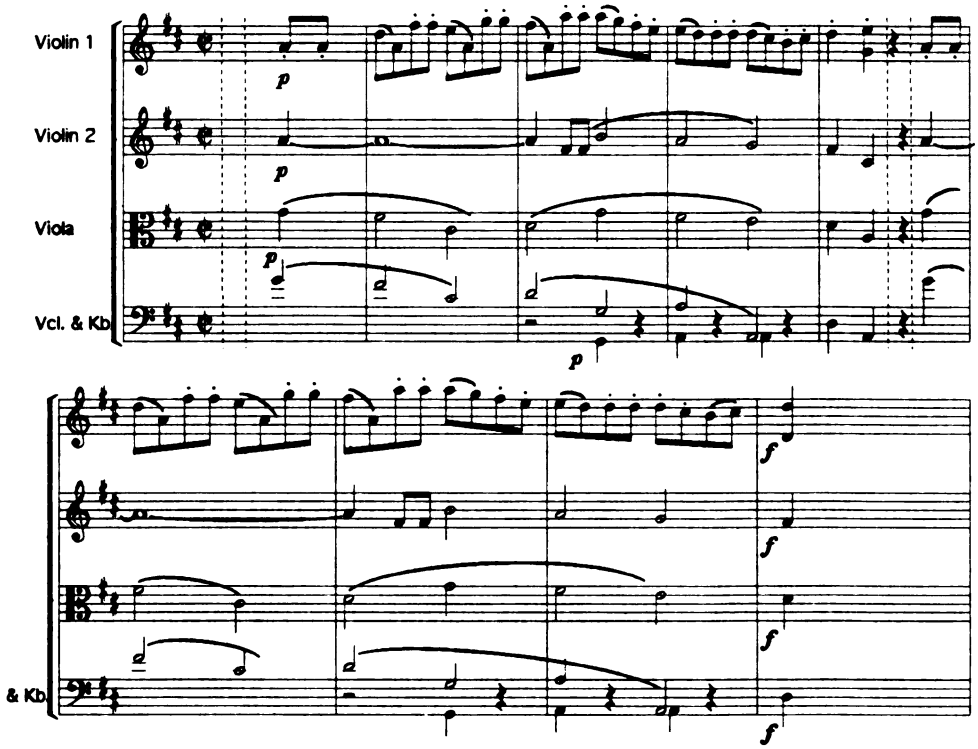
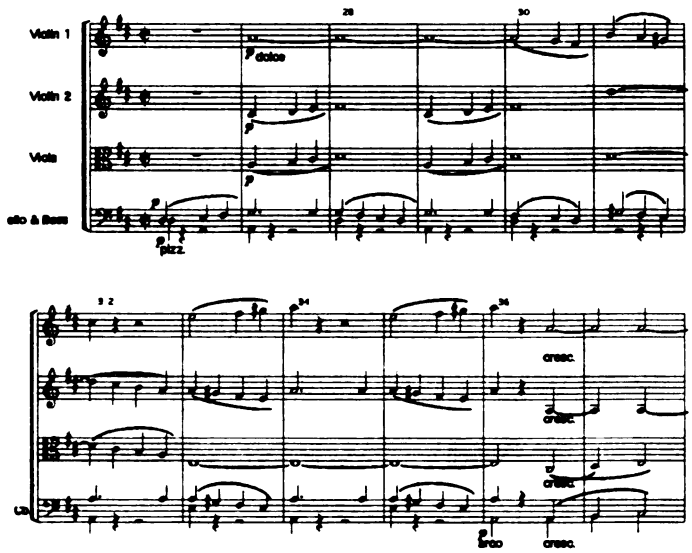
[7] Note, for example, that both of these works have opening movements in which the opening gestures are tonic in nature (although it might be argued that the opening of *Symphony No. 5* is tonally ambiguous).

[8] In both examples, the material which follows the anacrustic gesture is solidly tonic in nature. That is, having created the tension of a dominant opening, Beethoven is quick to establish the tonic tonality clearly .



EXAMPLE 3.2. Beethoven, *Symphony No. 2 in D Major*, iv.
Opening phrase, in "regularized" form. Dotted lines show point of omission.



EXAMPLE 3.3. Beethoven, *Symphony No. 2*, Op. 36, iv; mss. 26-37.

and 8). In addition to destroying the Beethovenian surprise element, this phraseology does something else. The morphological length of Beethoven's original measures 1-12 match exactly the phrase length of measures 26-37 (Ex. 3.3). Had the alternative version of the opening been used, the morphology of these two statements would no longer have been congruent.

Note that the critic's observations are, of necessity, based on style analysis: the existence of the anacrustic device as a feature of Beethoven's music becomes the suggestive element in the critic's evaluation.

Before we consider Meyer's categories of dialect, idiom, and intraopus style, a brief word about music theory as a discipline is in order. For Meyer, what has traditionally been called "music theory" is really "the translation of the normative practices of some style period into a set of syntactical rules for writing exercises in that style."[9] Thus, to study the common-practice period is, in part, to learn to write four-part chorales in the style of J.S. Bach. One needs to be clear about what is taking place during these sorts of exercises. While there is value in assimilating style characteristics through imitation of certain composers, what a bona fide theory of music undertakes to do is far more than descriptive: a real theory attempts to "discover the principles governing the formation of the typical procedures and schemas described in style analysis."[10] In other words, the writing of four-part chorales may serve a heuristic purpose, aiding the student in uncovering the rules of the style. But theory, in its fullest sense, will search for the principles that lie behind such rules.

Dialect, Idiom, and Intraopus Style

Thus far, we have distinguished three levels of constraints that come to bear upon

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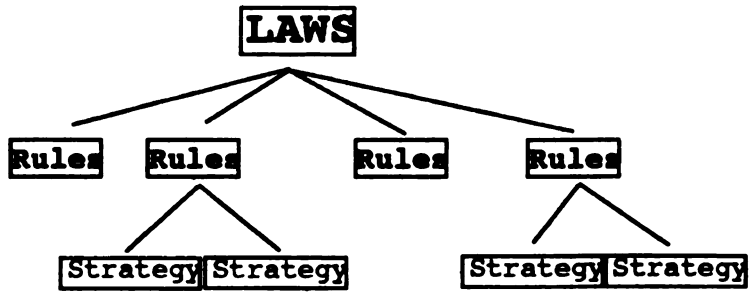
[9] *Explaining Music*, p. 7.

[10] Ibid., pp. 7-8.

compositional choices: laws, rules, and strategies. The relationship between the three is illustrated in Example 3.4.



EXAMPLE 3.4. Laws, rules and strategies.

The diagram shows how trans-cultural laws (mainly psychological and perceptual in nature) generate and delimit the rules of a particular style system. A number of rule systems are available. These may generally be thought of as chronological in nature; i.e., as one reads from left to right across the diagram, the rules might be read *Medieval, Renaissance, Age of Tonality, and Age of Modernity.*[11]

In turn, each rule system is capable of generating multiple strategies. Strategies may be either synchronic or diachronic. That is, given a particular rule system (e.g. tonal music), differing strategic realizations of those rules may be accounted for on a historical continuum (early Baroque vs. Classical), or on a contemporaneous continuum (music of Haydn vs. music of Mozart).

We come now to a further differentiation: the tripartite differentiation of dialect, idiom, and intraopus style. Example 3.5 illustrates the relationship between these three categories.

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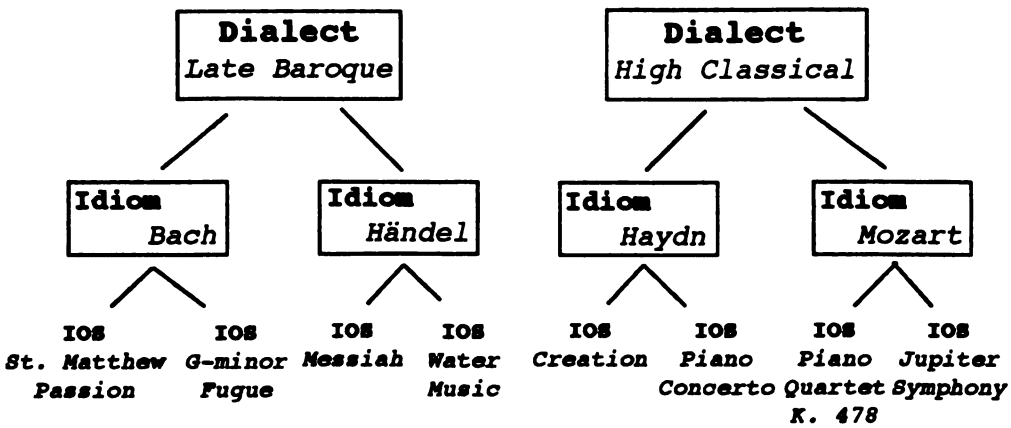
[11] *Style and Music*, p. 20.



EXAMPLE 3.5. Dialects, idioms and intraopus styles.

Dialect

The differentiation of a particular dialect occurs when a number of composers utilize the same or similar strategic instantiations of some rule-based schema. That is, given the totality of strategies available to them—and their number seems to be infinite—this group of composers chooses to employ a certain set of strategic realizations on a somewhat consistent basis.[12] An example will illustrate the concept of dialect.

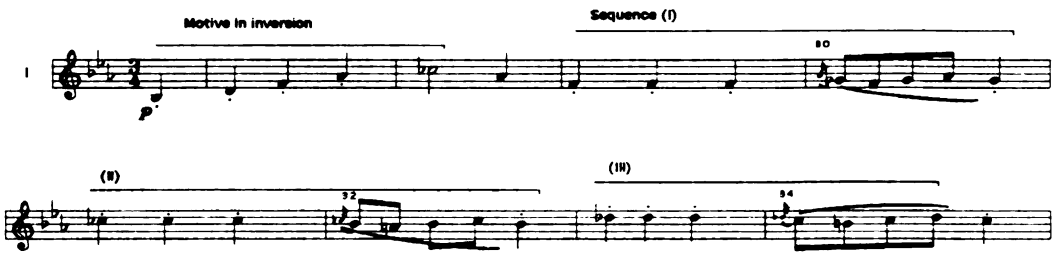
Haydn and Mozart exemplify what music historians refer to as the Viennese Classical school. These composers' works, along with some early works of Beethoven, are generally thought of as the epitome of that quality of balance, cohesion, and tonal syntax we have come to associate with the mature Classical period. Because of patent similarities in their works, including the highly-developed sonata-allegro form, the use of well-shaped antecedent/consequent schemas, and other factors, these composers arguably composed using the same dialect—that of Viennese Classicism.

An examination of two symphonic movements, one from each composer, points up the similarities in dialect. The two movements, partially reproduced in Appendices B and C, are the Menuets from Haydn's *Symphony No. 99 in E*$^{\flat}$, and Mozart's *Symphony No. 41*

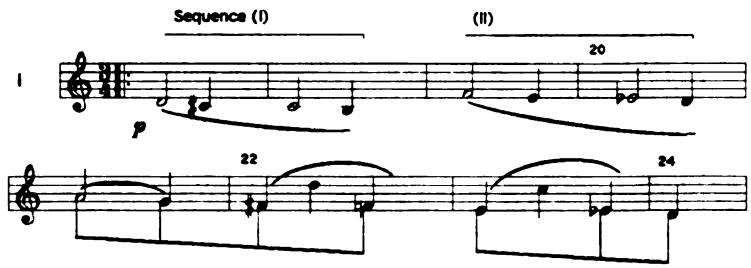
[12] Ibid.

in C, K. 551.[13] Both begin with thematic material that moves from the tonic to the dominant, then repeats. The Mozart passage is 16 measures in length, consisting of a double period made up of the scheme (4+4) + (2+2) + 4. Haydn utilizes a similar (4+4) pattern to open, but the second part of the theme follows the plan: (2+2) + 6 + (2+2) + (2+2). The irregularities in this scheme are due to the sequential treatment of the motive in measures 12-18, and the dominant prolongation in measures 19-26.

The second parts of the movements similarly move from the dominant back to the tonic. Similarities in the two schemas involve use of material derived from the opening section to return to the tonic. Haydn utilizes the opening motive in inversion, while Mozart treats the motive sequentially to begin the return. The sequencing schema, however, is observable in both works, as the sections move from dominant back to tonic harmony (Ex. 3.6). Thus, it is not difficult to observe Haydn and Mozart drawing on



EXAMPLE 3.6(a). Haydn, *Symphony No. 99 in E♭*, iii; mss. 26-34, showing use of sequence.



EXAMPLE 3.6(b). Mozart, *Symphony No. 41*, K. 551, iii; mss. 17-24, showing sequence.

[13] These symphonies were composed within five years of one another, and may be thought of as representative of the composers' mature styles.

similar instantiations of a basic strategy (a tonic-dominant-tonic schema).

Idiom

If dialect constitutes a set of strategic instantiations shared by a number of composers, an idiom is a subset of those instantiations chosen more or less consistently by a given composer.[14] Thus, Haydn and Mozart may be thought of as sharing a musical dialect, but differing in the idiomatic instantiation of that dialect. The Menuet movements we have been examining will serve to illustrate this point.

Perhaps the most noticeable difference in the two movements is to be found in the shapes of the opening melodies. While the Mozart melody is linear and fluid, the Haydn melody is clearly triadic.

There are, however, deeper idiomatic differences to be observed. Take as an example the first eight measures of each movement. Besides the differences in morphological lengths—the Haydn is constructed as (2+2) + (2+2), while Mozart's scheme is (4+4)—there is a fundamental difference in melodic implication.[15] The Haydn melody, largely because of its triadic nature, is relatively closed at the end of eight measures. This aspect is confirmed by the fact that the melody ends on the tonic E♭ (measure eight).

In contrast, the Mozart example opens in a much more processive manner. Example 3.7 illustrates some of the melodic implications present in the first eight measures.

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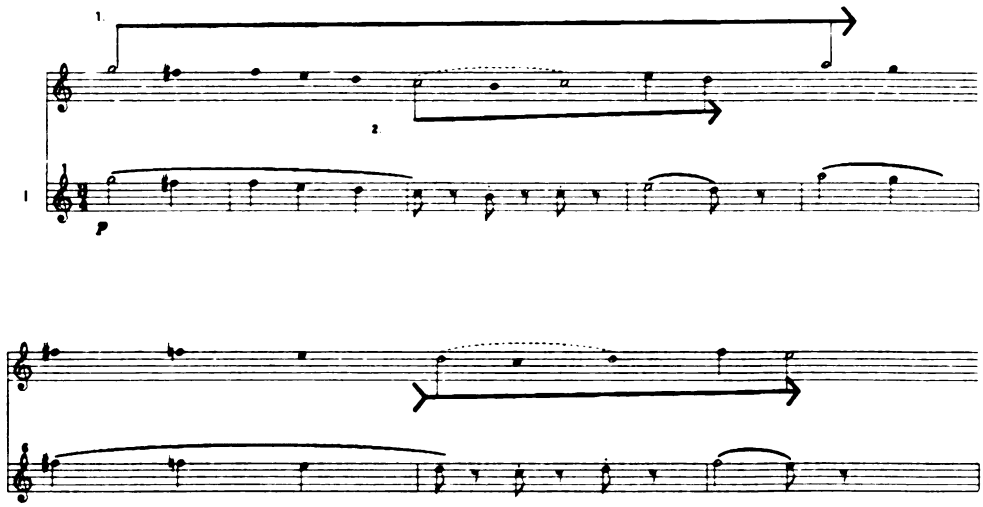
[14] *Style and Music*, p. 24.

[15] For more on implicative melodic structures, see *Explaining Music*, part II, pp. 109 ff.



EXAMPLE 3.7. Mozart, *Symphony No. 41*, K. 551, iii.

The chromatic nature of the melody provides a latent schema that will be more fully realized later in the movement.[16] This chromatic descent, however, is contained within the boundaries of a clearly diatonic structure, albeit one with significant melodic implications. The first implication is generated by the ascending pitches G^5 to A^5, implying a continuation to B^5. While this goal is not reached immediately,[17] a case may be made for its arrival in measure 40, where the rhythmic grouping gives prominence to the B^5 (see Appendix C).

The second implicative patterning is generated by the line C^5-D^5, D^5-E^5. This schema is made even more palpable by the fact that it occurs as paired endings of an antecedent-consequent phrase (measures four and eight). The goal of this motion is reached as the line continues through $F\#^5$ (measures 10 and 12), and on to the cadence on G^5 (measure 16).

In contrast to the Mozart melody, with its considerable melodic implications and chromatic enrichment, the Haydn melody seems to be constructed in a more closed

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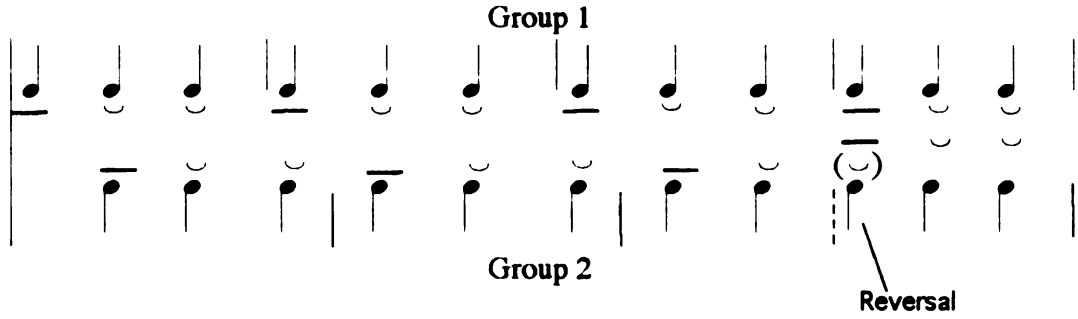
[16] See, for example, measures 44-49, a marvelous example of Mozart's use of chromatic counterpoint.

[17] For a discussion of proximate and remote realizations, see *Explaining Music*, chapter six.

manner. In the working out of the melodic material, we observe a fundamental difference in idiom between Haydn and Mozart. While Mozart seems concerned to develop latent melodic tendencies, Haydn deals more extensively with the rhythmic parameter. Using a motive from the opening melody, Haydn, in measure nine, begins a metrically dissonant[18] section that leads into a codetta, and on to the cadence on the dominant. Example 3.8 illustrates the way in which two distinct rhythmic groupings may be heard. Group 1 is a continuation of the rhythm begun in measure nine (_ u u). Group 2 has its genesis in the fact that bassoons, horns, and lower strings enter on beat two of measure 13, thereby creating a new rhythmic entity. This grouping is also dactylic (_ u u), but is shifted by one beat from group 1.



EXAMPLE 3.8. Haydn, *Symphony No. 99, iii, mss. 13-16;* showing metric dissonance.

At measure 16, the two groupings merge. This is effected by a reversal in melodic patterning in both rhythmic strata.[19]

The point of these observations is that, while both the Haydn and the Mozart passages provide examples of the Classical dialect, with its hallmark antecedent-consequent

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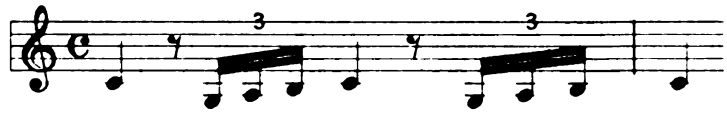
[18] Metric dissonance is discussed by Grosvenor Cooper and Leonard B. Meyer in *The Rhythmic Structure of Music*, p. 108. Here Cooper and Meyer present a rhythmic analog to the melodic phenomenon of dissonance. Just as harmonic suspensions result in dissonance on a strong beat, so the crossing of metrical patternings (as in Ex. 3.8) may result in metric dissonance. Cooper and Meyer attribute this concept to Curt Sachs in his *Rhythm and Tempo* (New York: W.W. Norton and Co., 1953).

[19] This re-synchronization of metrical patternings signifies an end-event: a codetta. For more on signification, see Janet Levy, "Texture as a Sign in Classic and Early Romantic Music," in *Journal of the American Musicological Society*, vol. 35 (1982), p. 482.

phraseology, they differ rather markedly in idiomatic instantiation. While Mozart relies heavily on melodic implications and their realizations, rarely resorting to overt rhythmic device, Haydn unabashedly exploits metric dissonance as part of his idiomatic language.[20]

Intraopus Style and Intraopus Structure

When a specific element is replicated within a given musical work, it results in what Meyer calls the intraopus style of that work. Thus, a recurrent event such as the rapid scalar figure in Mozart's *Symphony No. 41*, K. 551 may be viewed as an element of this work's intraopus style (Ex. 3.9). As such, this gesture appears, not only in the exposition of the first movement, but in the development, where it plays a major role.[21]



EXAMPLE 3.9. Mozart, *Symphony No. 41*, K. 551. Scalar figure.

While intraopus style describes the set of recurrent, class-like events within a work, the intraopus structure of a work has to do with relationships between events, and as such, pertains to a processive view of a work.[22] To take again the example of Mozart's *Symphony No. 41*: while each of the scalar figures exists as an element of the work's intraopus style, the way in which these figures relate to each other is a determiner of the work's intraopus structure. Thus, for example, the way in which Mozart utilizes the scalar figure in sequences midway through the development section would be of interest as an

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[20] It may also be noted that Haydn, in the second section of the Menuet, exploits the harmonic parameter. Here he ventures briefly into mediant harmony, something which Mozart does not do (although Mozart exploits chromaticism).

[21] This figure also appears in the final movement. Thus, as a recurrent event, this figure plays its part in the intraopus style of the entire symphony, as well as the first movement.

[22] See *Style and Music*, p. 25. Meyer credits Eugene Narmour with the concept of intraopus structure, although Narmour uses the term idiolect. See Narmour, *Beyond Schenkerism*, p. 212.

aspect of the work's intraopus structure. Likewise, when the figure reappears in the final movement, the analyst might ask how it is similar (or dissimilar) to its appearance in the opening movement.

CHAPTER FOUR

ARCHETYPES AND SCHEMAS

While *Emotion and Meaning in Music* laid the groundwork for Meyer's concepts of musical learning and perception, his more fully developed theories of archetypes and schemas would not emerge until several years later.[1] In "Meaning in Music and Information Theory,"[2] Meyer drew upon the then-recent development of information theory, suggesting that music might possess similar attributes to a Markoff process; i.e., relationships engendered by a musical process would give rise to a network of probabilities, and as the event continued, the probability of a given conclusion would increase, while information and meaning would decrease.[3]

The importance of information theory and its application to musical schemas may be seen in Meyer's view of style systems. For Meyer, style is "a finite array of interdependent melodic, rhythmic, harmonic, timbral, textural, and formal relationships and processes." These elements are internalized in the competent listener, who then is able to "experience the [musical] work as a complex of felt probabilities."[4] In order to make

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[1] ***Music, the Arts, and Ideas*** refers to a recurrent patterning by using both words: ***archetype*** and ***schema***. See, for example, p. 277. The plural for schema which Meyer seems to prefer is ***schemata***, while this study uses the plural ***schemas***.

[2] This article was subsequently reprinted in ***Music, the Arts, and Ideas***.

[3] ***Music, the Arts, and Ideas***, p. 15. Information theory had its genesis in the work of Claude Shannon and Warren Weaver. See Shannon and Weaver, *The Mathematical Theory of Communication* (Urbana: University of Illinois Press, 1949). This study claims that "practically everything said applies equally well to music of any sort" [not just speech]; pp. 3-4.

[4] ***Music, the Arts, and Ideas***, p. 116.

apprehension of such a style system possible, the system must include a certain degree of redundancy.[5] This redundancy may be provided by several factors: 1) repeated hearings of a musical work, 2) repetition of patterns and processes *within* certain works, and 3) the internal redundancy of a structure (pattern) itself. This last element has to do with a musical event's "order, regularity, and coherence," and has its basis, in part, in the cognitive laws of perception discussed in chapter two of this study.

The logical necessity of schemas for musical perception now becomes apparent. For, as Meyer suggests, the apprehension of a musical style is dependent upon the listener internalizing learned habits. Another name for these habits is schemas.

Schema Theory

The concept of a schema, like Meyer's category of laws, has its roots in the literature of cognitive psychology. David Rumelhart suggests that the idea of a schema is present as early as Kant's *Critique of Pure Reason*. But the most direct origin of the term is Frederic Bartlett's *Remembering*.[6] Here, Bartlett defines a schema as "an active organization of past reactions, or past experience."[7] For Bartlett, memory is not passive, or "reduplicative." Instead,

> an individual does not ordinarily take . . . a situation detail by detail and meticulously build up the whole. In all ordinary instances he has an overmastering tendency simply to get a general impression

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[5] When understood in the context of information theory, redundancy is "any deliberate duplication or partial duplication of . . . information to decrease the probability of a system or communication failure." (*Dictionary of Scientific and Technical Terms*, 2nd edition; New York: McGraw-Hill, 1978).

[6] *Remembering: A Study in Experimental and Social Psychology* (Cambridge: The University Press, 1932). David Rumelhart points out this connection in "Schemata: The Building Blocks of Cognition," from *Theoretical Issues in Reading Comprehension: Perspectives from Cognitive Psychology, Linguistics, Artificial Intelligence, and Education* , ed. by Rand J. Spiro, Bertram C. Bruce, and William F. Brewer (Hillsdale, N.J: L. Erlbaum Associates, 1980), p. 33.

[7] *Remembering*, p. 201; quoted in "A Schema-Theoretic View of Basic Processes in Reading Comprehension," in *Handbook of Reading Research*, Vol. 1, ed. P. David Pearson (New York: Longman, 1984).

> of the whole; and, on the basis of this, he constructs the probable detail. Very little of his construction is literally observed. . . . But it is the sort of construction which serves to justify his general impression.[8]

The idea of gaining an overarching mental construct in terms of which to perceive the particulars is picked up by David Ausubel. According to Ausubel's observations, "already-known general ideas 'subsume' or 'anchor' the new particular propositions [found in texts]."[9] While Ausubel's hypothesis pertained to reading, similar principles may be observed in Meyer's theory of musical schemas. While Ausubel stresses the necessity of general ideas being "stable, clear, [and] discriminable from other ideas,"[10] Meyer states that schemas are "patterns that . . . are memorable, tend to remain stable over time, and are therefore replicated with particular frequency."[11]

Before identifying several examples of musical schemas, let us consider a specific text schema and its operation. Anderson and Pearson explain that "a schema is an abstract knowledge structure. [It] summarizes what is known about a variety of cases that differ in many particulars."[12] In this sense, it is the overarching "general idea" that subsumes the particulars.[13] The particulars are the variables which, like the actors in a play, may change without affecting the constancy of the story line.[14]

According to schema theory, knowledge about certain situations is bound up in abstract mental structures (schemas). An example given in Anderson and Pearson is

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[8] *Remembering*, p. 206; quoted in "A Schema-Theoretic View of Basic Processes in Reading Comprehension," p. 257.

[9] "A Schema-Theoretic View of Basic Processes," p. 258.

[10] Ibid.

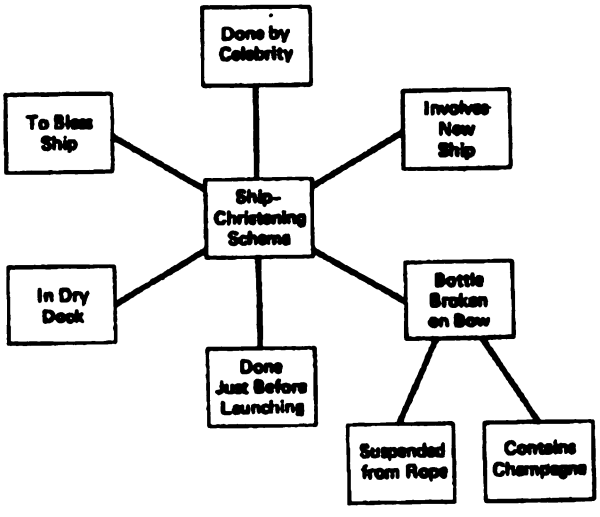
[11] *Style and Music*, p. 51.

[12] "A Schema-Theoretic View of Basic Processes," p. 259.

[13] Ibid., p. 258.

[14] "Schemata: The Building Blocks of Cognition," pp. 35-37.

illustrative. Example 4.1, reproduced from Anderson and Pearson, shows the way in which the "ship christening" schema might be activated. In this model, several variables surround the schema of "ship christening." When the schema is activated, these variables are filled, or instantiated, with specific information.[15] Thus, when a reader believes that a ship christening is in view, he will continue reading with the expectation that the variables will be instantiated with values appropriate to a ship christening. Thus, to read that "Queen Elizabeth participated in a long-delayed ceremony" provides a better fit for the christening schema than to read "the local garbage collector participated in a long-delayed ceremony." The reason is that the christening schema calls for a celebrity, not a commoner, to instantiate the "person" variable.



EXAMPLE 4.1. "Ship Christening" schema.
Reproduced from *Handbook of Reading Research*, ed. P. David Pearson (New York: Longman, 1984). Used by permission.

Anderson and Pearson observe that a given instantiation of a variable will have a certain probability of activating a given schema. Further, once activated, the schema

[15] "A Schema-Theoretic View of Basic Processes," p. 260.

provides certain probabilities of bringing to mind each of the other variables.[16] In this way, when a schema is activated, a sort of feedback mechanism is set in motion. The reader's expectations cause him to search for probable variables, and these variables, when instantiated, confirm the presence of the schema.

Finally, Rumelhart points out that, like computer programs, schemas are networks: they resemble procedures which invoke subprocedures. This network of procedures and subprocedures returns values that either confirm or deny goodness of fit to the generating schema.[17] To cite the example given by Rumelhart, a **FACE** schema would be made up of a network of subschemas (MOUTH, EYE, NOSE). Each of these would have its own subschemas (e.g. EYE: iris, lashes, pupil). If the variable EYE is found, as well as MOUTH, the probability of the **FACE** schema being activated is high. Once activated, the **FACE** schema would generate expectations that other variables belonging to it would also be found (e.g. CHIN, NOSE).[18]

In a schema-based theory of perception, a bi-directional process is in view. When the activation of a schema generates expectations of finding certain subschemas, the process is labeled conceptually-driven, or top-down processing. Conversely, when subschemas activate a higher-level schema, the process is data-driven, or bottom-up. This bi-directionality is an important feature of a schema theory. As schema-generated expectations are instantiated, these fulfilled expectations, in turn, confirm the higher-level schema of which they are a part. As the feedback process continues, still higher-level schemas may be activated by the accumulation of a growing number of good-fit schemas.[19]

As might be assumed, the converse of the aforementioned process also holds true. When a subschema search turns up no instantiations that are a good fit, the processing of

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[16] Ibid., p. 261.

[17] Rumelhart, p. 39.

[18] Ibid.

[19] Ibid., pp. 41-42.

the proposed schema is terminated. The search for valid subschemas then continues in new directions. Perhaps most interestingly, a schema may be activated on a pro tem basis; i.e., after a minimal number of subschemas are found which are of good fit. After further processing, however, the provisional schema may be disallowed. This results in what Rumelhart calls the "double-take" effect.[20]

Musical Schemas

From this brief consideration of schema theory, we proceed to the ways in which Meyer co-opted the concept, attaching to it music-theoretic applications. As mentioned at the outset of this chapter, Meyer's interest in cognitive theory led him, as early as 1956, to speculate about ways in which the mind organizes musical stimuli into patterns. In *Emotion and Meaning in Music*, Meyer writes:

> The organization which the mind imposes upon the separate stimuli which are constantly "bombarding the system" is not an accidental or an arbitrary one. The mind in its selection and organization of discrete stimuli into figures and groupings appears to obey certain general laws. These not only account, in part, for the way in which the mind organizes musical stimuli but also explain how some of the expectations which the mind entertains on the basis of such groupings arise.[21]

Here Meyer alludes, not only to patterns as perceptual entities, but hints at a theory of expectation—a theory that would be further developed in *Emotion and Meaning in Music*, but particularly in *Explaining Music*.

In a chapter devoted to a critique of total serialism, Meyer elaborates the concept of perceptual schemas.[22] He states:

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[20] Ibid., p. 42. This retrospective view seems to correspond to Meyer's category of evident meaning. See *Emotion and Meaning in Music*, p. 38.

[21] *Emotion and Meaning in Music*, p. 83.

[22] See chapter 11 of *Music, the Arts, and Ideas*, pp. 266-293.

> We perceive, comprehend, and remember our experiences—musical or other—in terms of more or less learned schematic types. *Particular* experiences and objects are comprehended and remembered as deriving from, and deviating from, schemata which serve as methods for "encoding" and remembering large amounts of information easily and efficiently.[23]

Note in this description Meyer's use of the word "particular," which corresponds to Ausubel's description.[24] Recall that this "subsuming" or "anchoring" takes place only when the "existing ideas (read schemas) are stable, clear, discriminable [entities].[25]

According to Meyer, stable schemas are crucial for the comprehension of music. In *Explaining Music*, Meyer states his belief that music comprehension is largely dependent upon a knowledgeable listener. For Meyer, this means a listener who knows a style's syntax, conventional signs, and schemas.[26] Schemas (and their almost indistinguishable counterparts archetypal patterns) are abstractions which form the normative structures against which particular instantiations are perceived.[27] Musical schemas are much like their textual counterparts: they help to organize into chunks what otherwise might be disparate information.

Implicit in Meyer's understanding of schemas is the axiom that music is organized in a hierarchical fashion. Without this sort of structure, comprehension of complex musical relationships would be impossible:

> If musical stimuli (pitches, durations, timbres, etc.) did not form brief, but partially completed events (motives, phrases, etc.), and if these did not in turn combine with one another to form more extended, higher-order patterns, all relationships would be local and transient—in the note-to-note foreground.

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[23] *Music, the Arts, and Ideas*, p. 287 (italics added).

[24] "A Schema-Theoretic View of Basic Processes," p. 258.

[25] Ibid. See also above.

[26] *Explaining Music*, p. 69.

[27] Meyer views archetypal patterns as "those patterns which arise as the result of physiological and psychological constraints presumed innate in human behavior." Schemas are conventional; i.e. the result of learning. See *Explaining Music*, p. 214.

> Nonhierarchic music—that of John Cage, for instance—moves, like the ocean in undulating or sporadic waves of activity in which we attend to, but can scarcely remember, the particular events.[28]

In order for hierarchical structuring to be present, musical events must be articulated into entities that are marked by a certain degree of closure. This concept, so crucial to further understanding of schemas, is worthy of elaboration.[29]

Closure may be defined as "the arrival at relative stability."[30] This definition obviously affords wide latitude to the theorist in determining closural points. In fact, Meyer observes that closure is multi-parametric: any of the musical parameters—melody, rhythm, harmony, texture, timbre, or dynamics—may imply closure. Additionally, in some cases the parameters may cooperate in articulating closure, while in other cases, one parameter may imply closure while others remain open. In the former case, parameters are acting congruently, while in the latter case, they are noncongruent.[31]

What is it that causes a musical parameter to imply closure? Meyer cites five factors:

1. Similarity and difference between successive events. Neither total uniformity nor complete disparity between two entities allows for the stability/instability relationships necessary for closure.

2. Separation of one event from another. This may be effected through separation in time or pitch, or even dynamics, timbre, or texture.

3. Immediate repetition of a pattern.

4. Completion of previously generated implications.[32]

5. Cadential finality and tonal stability.[33]

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[28] *Explaining Music*, p. 80.

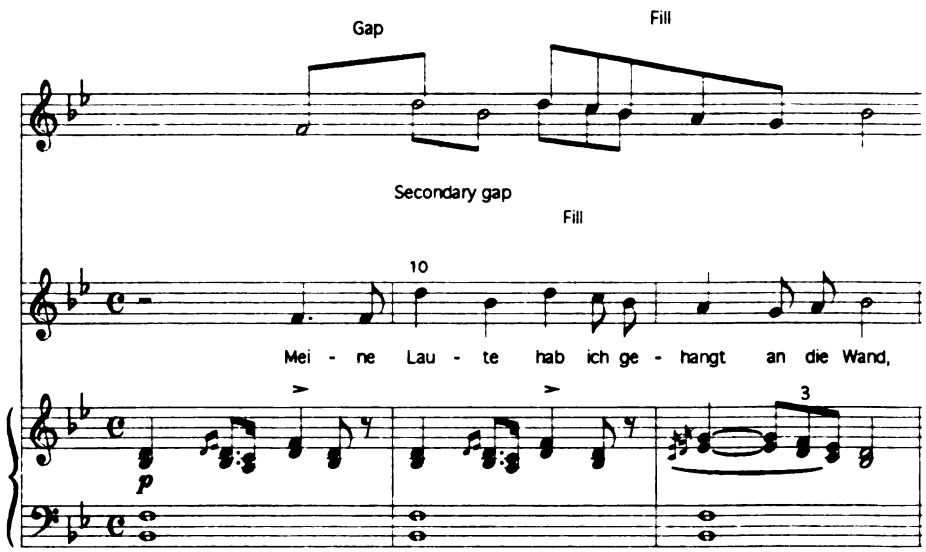
[29] *Explaining Music*, p. 81. For elaboration on the topic of closure, Meyer cites Barbara H. Smith's *Poetic Closure: A Study of How Poems End* (Chicago: University of Chicago Press, 1969).

[30] *Explaining Music*, p. 81.

[31] Ibid.

[32] Ibid., p. 110.

[33] Ibid., p. 83.



EXAMPLE 4.2. Schubert, "Pause", from *Die Schöne Müllerin*, D. 795 (mss. 9-11.)

The opening vocal phrase of Schubert's "Pause" from *Die Schöne Müllerin*, D. 795 illustrates the way in which several of these factors combine to denote closure, and on various levels (Ex. 4.2).

In this phrase, closure is effected on at least two levels. On the lowest motivic level, the first closural point may be observed after the first $B^{\flat 4}$. This is perceived primarily in retrospect, after the end of measure 10, because the descending D^5-C^5-$B^{\flat 4}$ provides a filled-in version of the D^5-$B^{\flat 4}$ interval. Thus, in retrospect, we hear the two patterns as similar, and our mind marks off each as a closed entity on the motivic level (factor three above).

On the next hierarchic level, closure does not occur until the end of measure 11, for at least three reasons. First, because of the relative mobility of the eighth notes in the last half of measure 10, continuation is implied. Thus, measure 10 can not mark the closural point on this level. Second, the agogic stress of the $B^{\flat 4}$ in measure 11 provides a clear end-accent.[34] And finally, the implications generated by the melodic gap (F^4 to D^5) are

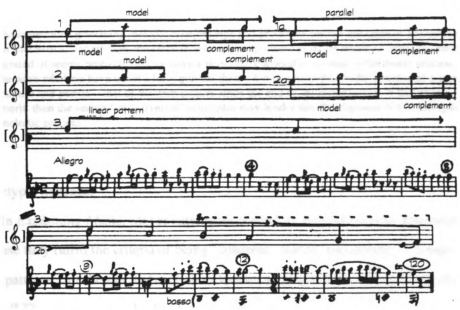
[34] For a discussion of end-accented groupings, see Cooper and Meyer, *The Rhythmic Structure of Music*.

realized in measure 11 (factor four above).

The concept of closure is vital to Meyer's view of schemas. It is, in fact, what enables a given pattern to be perceived as a schema. Thus, we read that

> melodic patterns [schemas] are classified by listeners, as well as music theorists, in terms of the organization of ***the highest level on which significant closure is created*** by the parameters that shape musical relationships.[35]

At least two implications proceed from this statement: 1) in delineating schematic



EXAMPLE 4.3. Mozart, *Oboe Quartet in F Major*, K. 370, i. Adapted from Leonard B. Meyer, *Explaining Music: Essays and Explorations*. (Chicago: University of Chicago Press, 1973). Used by permission.

structures, closure is determinative, and 2) the closure which occurs at the highest level is the one which determines the best-perceived schema. As an example, Meyer cites the melody from Mozart's *Oboe Quartet in F Major*, K. 370 (Ex. 4.3). Here we observe that

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[35] "Melodic Processes and the Perception of Music" (italics added).

a changing-note process comes to completion at measure eight. Because of the closure this effects, Meyer classifies the melody as a changing-note melody—this, despite the fact that the linear descent process continues to measure 120.

Schemas are important as "cognitive-mnemonic" devices. Because they are "coherent, orderly, and simple," these patterns tend toward stability and coherence, and are easily learned. For these reasons, schemas facilitate the comprehension of musical structure.[36] In addition, Meyer makes clear that musical schemas are conventional—they are learned and, as such, are culture-bound. Because of this, Meyer cautions that

> the constraints governing melodic relationships and processes are not the same in Mozart's music as in Machaut's; nor are they the same in Western tonal music as in the music of Java. Put the other way around: it seems probable that we have a reasonably workable account of harmonic process precisely because what we have is *not* a fully general theory but one restricted to the practice of a particular culture and period—that of Western culture since the end of the Renaissance. If this observation has merit, then the search for "universal" principles may hinder the development of theories (*plural*) of melodic process.[37]

Archetypal Schemas

In *Explaining Music*, Meyer catalogues several archetypal melodic structures. Because they fulfill the criteria of being "coherent, orderly, and simple," we may expect these patterns, or schemas, to function as learned conventions in the repertory of tonal music.[38] The schemas may be divided into categories of conjunct, disjunct, and symmetrical patterns.[39]

Meyer's taxonomy of melodic schemas is dependent upon the following principle:

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[36] Ibid., p. 319.

[37] Ibid., p. 320.

[38] Ibid., p. 319.

[39] *Explaining Music*, pp. 131-195. In addition, Meyer adds to this list the "Wedge" schema and the "Adeste Fidelis" schema. See *Style and Music*, pp. 51 ff. and pp. 225, 319 ff.

"patterns tend to be continued until they become as complete and stable as possible."[40] This axiom is the basis for the implicative relationship—"one in which an event . . . is patterned in such a way that reasonable inferences can be made . . . about how the event itself might be continued and perhaps reach closure and stability."[41] It is this tendency toward completion that makes perception of melodic schemas possible.

The matter of closure and stability is, of course, a somewhat subjective one. Exactly what constitutes a point of stability? While somewhat subjective, however, the matter is not entirely so. In determining a melody's structural tones, Meyer outlines three general axioms:

1. Metric placement. In general, pitches occurring on relatively strong beats are considered more structurally prime than are those on weaker beats.

2. Goal tones—tones of resolution—are structurally important on the level on which they are goals. This may take precedence over metric placement (e.g. when the metrically strong pitch is an appoggiatura, the goal tone to which it moves would be more important structurally, even though the appoggiatura falls on the stronger beat).

3. Regular patterning may indicate that a given pitch ought to be viewed as structural, even though it is on a metrically weak beat. The J.S. Bach fugue subject discussed in chapter two of this study demonstrates this principle (See Ex. 2.3a).[42]

Conjunct Schemas

Perhaps the easiest melodic schema to understand is one based on conjunct, or linear patterning. This schema is predicated on the principle that "once begun, a linear, conjunct

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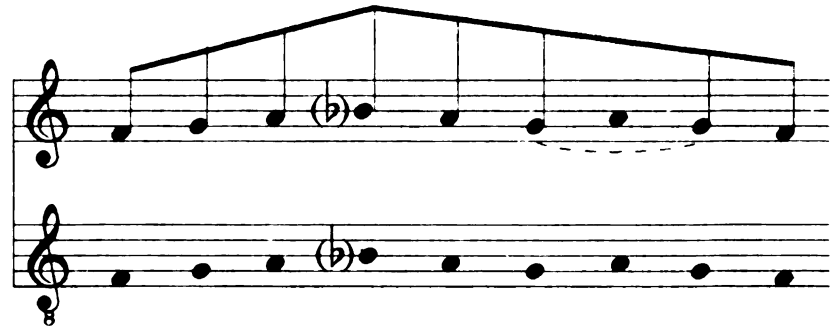
[40] *Explaining Music*, p. 130.

[41] Ibid., p. 110.

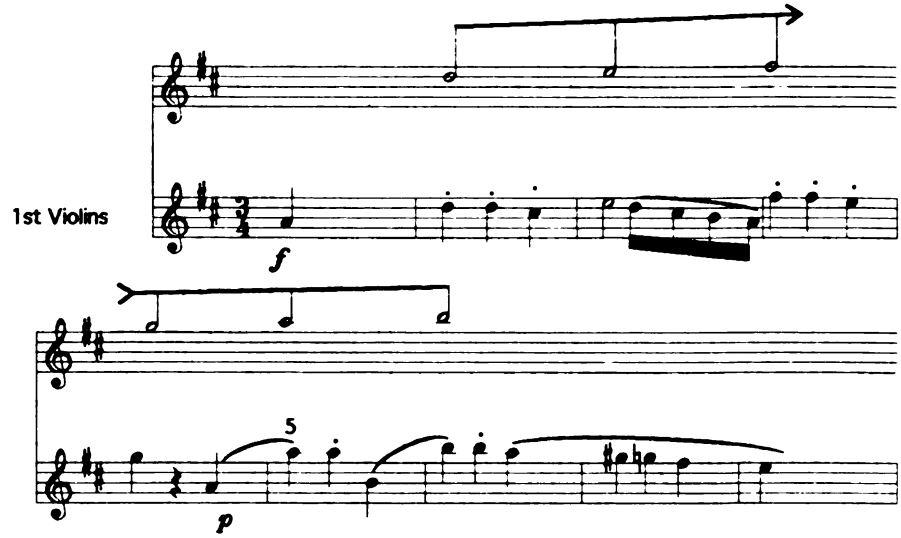
[42] Ibid., p. 122.

motion implies continuation to a point of relative stability."[43] Of course, this linear process may occur on any number of hierarchic levels. Gregorian chant provides an example of linear process on a foreground level (Ex. 4.4).



EXAMPLE 4.4. Sanctus trope, *Divinum mysterium*.

Here, the initial upward motion is balanced by an equivalent descent to the original pitch of the chant. Even the slight deflection of the neighbor-tone (A^4) is not enough to thwart the implication that the line will descend to F^4.



EXAMPLE 4.5. Haydn, *Symphony No. 101*, iii.

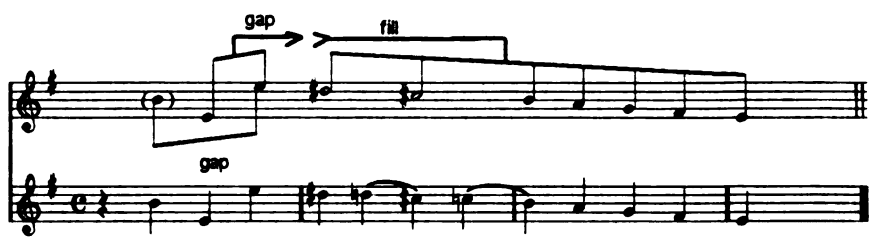
[43] Ibid., p. 131.

In principle, this linear motion may extend to any hierarchic level. Example 4.5 shows the opening measures of the third movement of Haydn's *Symphony No. 101*. The linear motion is on the level of the measure (rather than note-to-note). Motivic repetition between measures one and three makes clear the ascent to G^5 in measure four. This rising motion continues to B^5 (measure six) before falling off to a cadence in measure eight. Aided by the relatively quick tempo, this higher-level melodic ascent is readily heard as the prevailing schema of this section.

Disjunct Schemas

Meyer delineates two ways in which disjunct patterns may be implicative. The first is by creating incompleteness—a gap. The second is by implying continuation of a directional patterning, usually triadic.[44]

Gap-fill melodies. As the name implies, gap-fill schemas consist of two parts: a generating event (gap) and a realization (fill).



EXAMPLE 4.6. Geminiani, *Concerto grosso in E minor*, Op. 3, No. 3,i. Reproduced from Leonard B. Meyer, *Explaining Music: Essays and Explorations*. (Chicago: University of Chicago Press, 1973). Used by permission.

In this fugue subject from Geminiani's *Concerto grosso in E minor*, Op. 3, No. 3, the leap of an octave provides strong implications that the created gap will be filled (Ex. 4.6).

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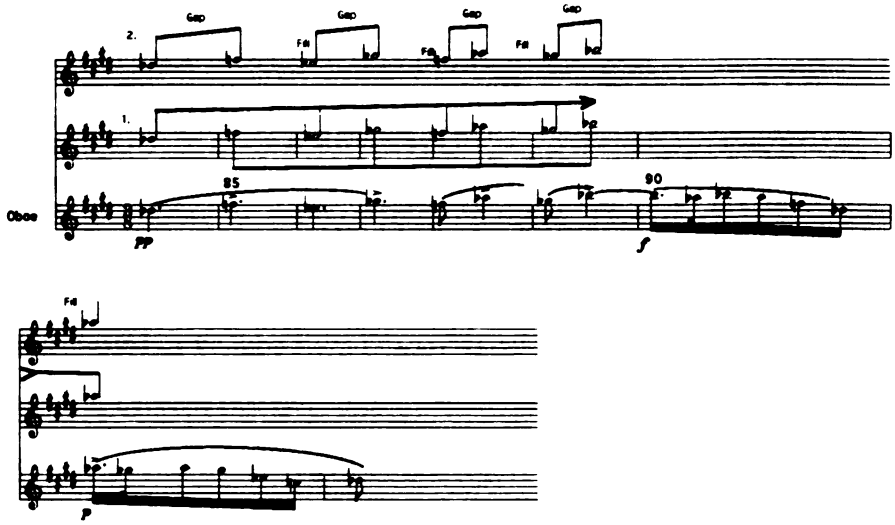
[44] Ibid., p. 144.

In this case, the realization comes forthrightly and immediately. The line descends directly (first chromatically, then diatonically) to the E^4 in measure four.

If this is an elementary example of the gap-fill schema, Example 4.7 provides an instance of more complexity. The melody shown is from Schubert's *Symphony No. 8 (Unfinished)*, second movement, second theme.



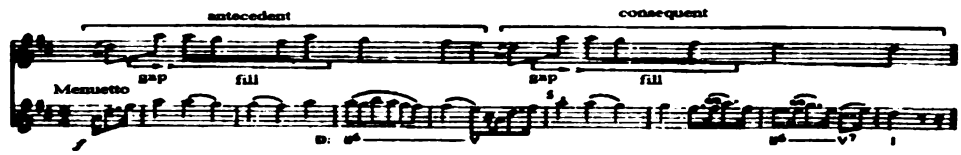
EXAMPLE 4.7. Schubert, *Symphony No. 8 in B minor*, ii; mss. 84-92

This melody, seemingly unpretentious, hides a rather complex merging of two schemas. The first, shown in Graph 1, is clearly linear, rising from the initial $D^{\flat 5}$ to the $A^{\flat 5}$ in measure 91. Complementing this motion is the linear ascent from F^5 to $B^{\flat 5}$. These two interlocking lines, however, are strengthened by a small-scale gap-fill schema. Each pair of measures creates a gap of a third—a gap that is subsequently filled in the next measure (Graph 2). The process is then repeated until reversed in measure 90. Further, the figures in measures 90 and 91 may be viewed as a decorated fill of the generating gaps which came before.

Three characteristics of gap-fill schemas are worthy of mention. The first is that, in general, a large generating gap creates a stronger sense of incompleteness, and a conse-

quently stronger implication that the gap will be filled. Thus, the gap in the Geminiani example (Ex. 4.6) creates a stronger implication towards fill than does the gap in the Schubert example (Ex. 4.7).[45]

Second, the realization of the fill does not always coincide with formal closure. Meyer illustrates this by citing Mozart's *Flute Quartet in A Major*, K. 298 (Ex. 4.8).



EXAMPLE 4.8. Mozart, *Flute Quartet in A Major*, K. 298, ii.
Reproduced from Leonard B. Meyer, *Style and Music: Theory, History and Ideology* (Chicago: University of Chicago Press, 1996). Used by permission.

The gap created by the leap from D^5 to A^5 is only partially filled when semi-closure arrives at the half-cadence (measure four). The completion of the fill occurs at the end of the consequent phrase (measure eight). Meyer refers to this phenomenon as process/form coupling.[46]

Finally, the anacrustic gesture $\hat{5}$-$\hat{1}$, so characteristic of many tonal melodies, is often best viewed as a rhythmic-harmonic gesture, and not as a gap implying subsequent fill.[47]

Triadic melodies. The second melody type in the category of disjunct schemas is the triadic melody. Because the system of tonal music depends largely upon triadic structures, these entities, when present, generate implications for their continuation.[48]

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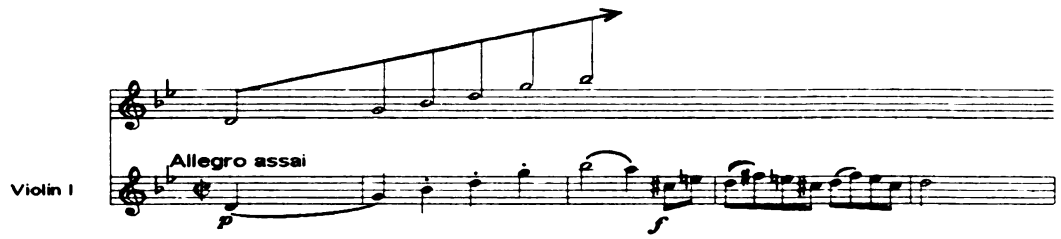
[45] "Melodic Processes and the Perception of Music," p. 323.

[46] Ibid., p.324.

[47] *Explaining Music*, p. 145.

[48] Ibid., p. 157.

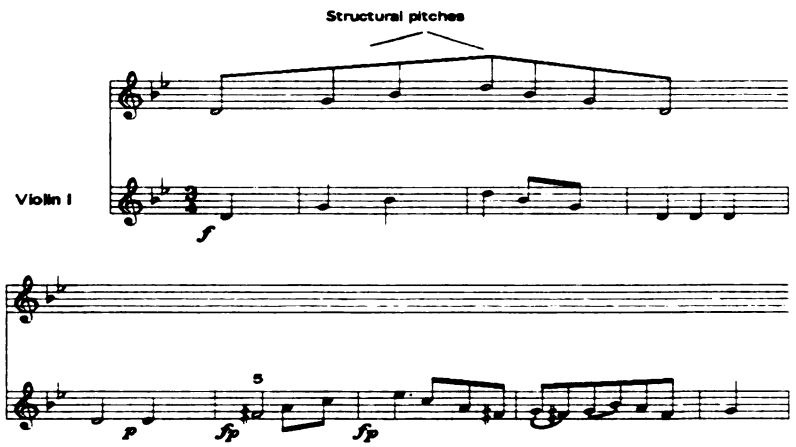
Let us examine two illustrative excerpts from the symphonic literature. The first is from Mozart's *Symphony No. 40 in G Minor*, K. 550. The fourth movement begins with a patent triadic figure (Ex. 4.9).



EXAMPLE 4.9. Mozart, *Symphony No. 40 in G minor*, K. 550, iv.

There could scarcely be a clearer example of triadic implication. The anacrustic D^4 leads to the outlining of the G minor triad, which quickly moves on to the $B\flat^5$ in measure two.[49] It is evident that the implied motion of the G minor triad is beyond G^5, and on to $B\flat^5$. One important reason for this is that the G^5, reached in measure one, is on a weak beat. Especially at this tempo (*Allegro assai*), there is clear implication for continuation to the $B\flat^5$, and even beyond. A structural D^6 is reached in the next phrase.

It is interesting to juxtapose against this example the one below (Ex. 4.10).



EXAMPLE 4.10. Schubert, *Symphony No. 5 in B♭ Major*, D. 485, iii.

[49] Here is an example of the fact that anacrustic leaps of a fourth are often *not* gap-generating. This gap is not filled.

The melody which opens the third movement of Schubert's *Symphony No. 5 in B♭ Major*, D. 485, bears striking resemblance to the Mozart melody. Both begin with an anacrustic leap from $\hat{5}$ to $\hat{1}$. Each has as its opening phraseology an antecedent/consequent schema (I-V/vii-I). The Schubert melody, however, instead of arriving at $B\flat^5$, finds its apex at D^5 (measure two). The reasons for this may be found, in part, in the following explanation.

The triple meter in the Schubert example causes the G^4 and the D^5 to become structural tones. As such, those two pitches clearly mark out the boundaries for this opening phrase. In contrast, the Mozart melody remains quite mobile until reaching the $B\flat^5$ in measure two, thus indicating that the melodic range to be expected may well be larger than an octave.[50]

Conjunct and disjunct schemas are generally characterized by repetition, continuation, or contrast of function. For example, the linear patterning of Mozart's *Piano Trio No. 5*, K. 502 (Ex. 2.1) shows clear evidence of repetition at the level indicated in Graph 1. Continuation may be observed in the plainchant *Divinum mysterium* (Ex. 4.4), as the linear descent implied by the $B\flat^4$-A^4-G^4 continues on to the stable F^4. And contrast of function is best seen in gap-fill schemas such as the Geminiani fugue subject (Ex. 4.6).[51]

Symmetrical Schemas

In contrast to these functions, symmetrical melodies are characterized by a mirroring between successive events. There is, in Meyer's words, "a balance of motion and countermotion."[52] We will consider three types of symmetrical schemas: complementary, changing-note, and axial melodies.

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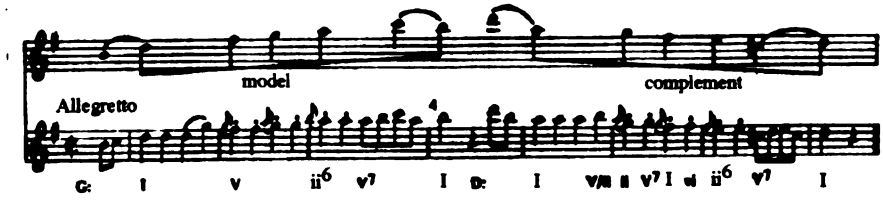
[50] See *Explaining Music*, pp. 157-161.

[51] Ibid., p. 174.

[52] Ibid..

Complementary melodies. Example 4.11 shows an excerpt from the third movement of Mozart's *Piano Concerto in G Major*, K. 453. It is a clear example of a complementary melody. Meyer's analysis points up the salient features: the structural tones of the complement roughly form a mirrored version of the model; rhythmic structure of the two phrases is similar; and, if the complement is analyzed as being on the dominant, harmonic movement is also similar.



EXAMPLE 4.11. Mozart, *Piano Concerto in G Major*, K. 453, iii.
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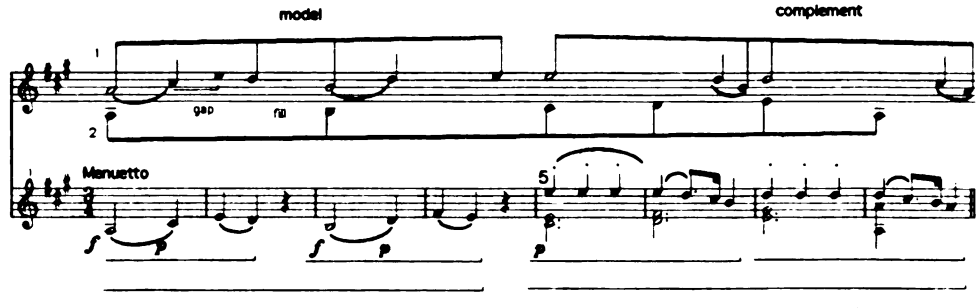
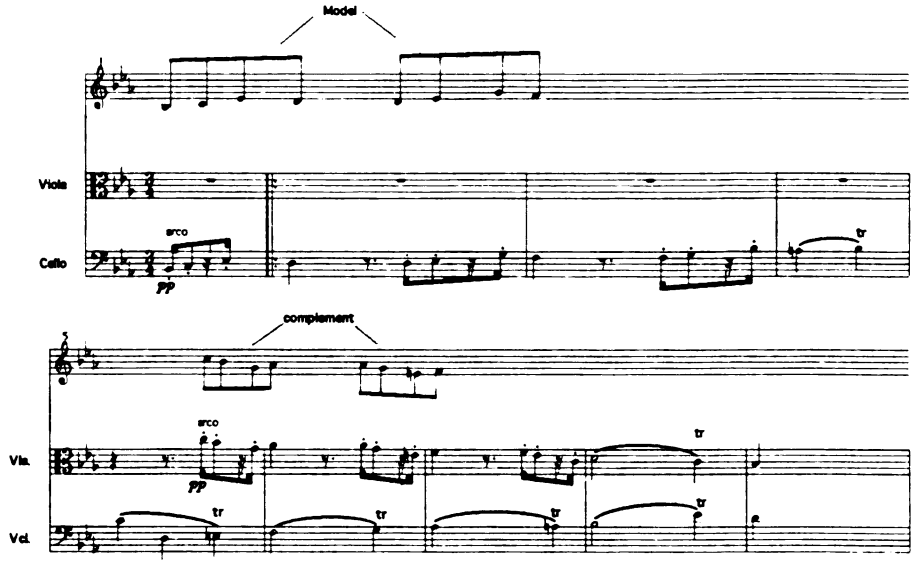
While rhythmic similarity makes the model/complement relationship most palpable, it is not a necessary factor. As an example of a model/complement relationship that is rhythmically diverse, Meyer cites the Menuet from Mozart's *String Quartet in A Major*, K. 464 (Ex. 4.12).



EXAMPLE 4.12. Mozart, *String Quartet in A Major*, K. 464, ii.
Reproduced from Leonard B. Meyer, *Style and Music: Theory, History and Ideology* (Chicago: University of Chicago Press, 1996). Used by permission.

Here, the mirroring between model and complement is quite evident when structural tones are observed. However, this similarity is masked somewhat by the foreground rhythmic scheme.

Two aspects of complementary melodies are worthy of note. First, Meyer believes that the model/complement relationship is one that is naturally understandable. This relatively immediate comprehension, he says, facilitates an interaction between a model and its complement that is often "witty and amusing."[53] For example, Meyer cites the *Scherzando vivace* movement from Beethoven's *String Quartet in E♭ Major*, Op. 127 (Ex. 4.13).



EXAMPLE 4.13. Beethoven, *String Quartet in E♭ Major*, Op. 127, iii.

The cogent model/complement schema in this exchange between cello and viola clearly provides for that element of playfulness that one associates with many scherzo movements.

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[53] *Style and Music*, p. 249.

The second feature of complementary schemas that Meyer points out is that they are plan-based. This term, which stands in contrast to the description script-based, bears some explanation.[54]

Some of the schemas with which Meyer deals are syntactic in nature; i.e., they are predictive in the sense that, once begun, a process usually leads to a more or less expected conclusion. Examples of this type of schema include antecedent/consequent phrases, changing-note melodies (discussed below), and cadential formulas.[55] Meyer labels these schemas script-based.[56] Plan-based schemas, on the other hand, are less predictable: "To the extent that the syntactic constraints shaping some script are unfamiliar, . . . the listener will tend to understand that script in terms of a more general plan."[57]

Meyer includes complementary, gap-fill, and axial melodies in the category of plan-based schemas. He observes that, during the nineteenth century, plan-based schemas tended to rise in prominence, either subsuming syntactic scripts, or replacing them. For example, Meyer believes that, during the course of the nineteenth century, secondary parameters (dynamics, texture, timbre) took on more and more importance, thus shaping form and process by plan, not by script.[58]

Changing-note melodies. This melodic schema, mentioned above in the category of script-based schemas, is a common one in the literature of the eighteenth and early nineteenth centuries.[59] Its skeletal structure is shown in Example 4.14.

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[54] Ibid., pp. 245-246. Along with complementary schemas, Meyer also believes that axial and gap-fill schemas are plan-based.

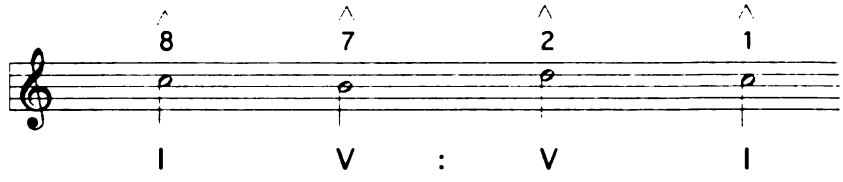
[55] Ibid., p. 245.

[56] For his model of scripts and plans, Meyer cites Schank and Abelson, *Scripts, Plans, Goals, and Understanding: An Inquiry into Human Knowledge Structures* (Hillsdale, N.J: Lawrence Erlbaum Associates, Inc., 1977).

[57] *Style and Music*, p. 245.

[58] *Style and Music*, pp. 245-246. Meyer himself states that this hypothesis needs more careful documentation.

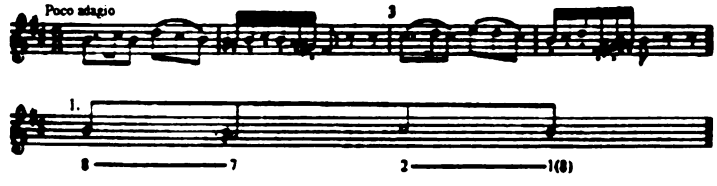
[59] *Explaining Music*, p. 191.



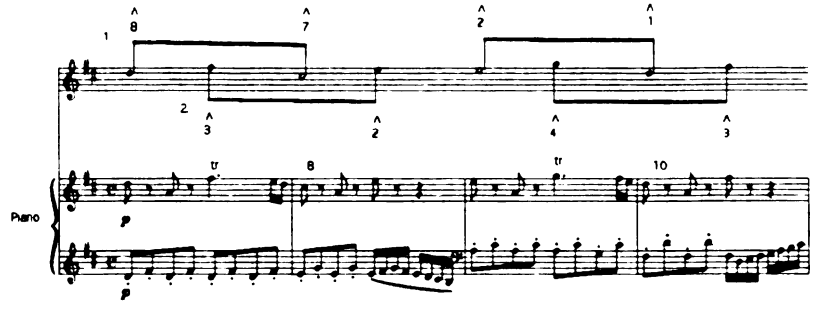
EXAMPLE 4.14. Archetypal changing note schema.

Quite often, the motion $\hat{8}$-$\hat{7}$ is supported by the harmony I-V, while the complement $\hat{2}$-$\hat{1}$ has the harmonic structure V-I. This schema, however, does not always hold.[60]

Two examples of changing-note schemas are shown in Example 4.15. The first comes from the second movement of Haydn's *Symphony No. 46 in B Major;* the second, from the first movement of Mozart's *Piano Sonata in D Major*, K. 311.[61]



EXAMPLE 4.15(a). Haydn, *Symphony No. 46 in B Major,* ii.
Reproduced from Leonard B. Meyer, *Style and Music: Theory, History and Ideology* (Chicago: University of Chicago Press, 1996). Used by permission.



EXAMPLE 4.15(b). Mozart, *Piano Sonata in D Major,* K. 311, i (mss. 7-10)

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[60] A divergent schema will be examined in chapter five.

[61] Both of these examples were used by Rosner and Meyer in their perceptual case-study outlined in "Basic Melodic Processes and the Perception of Music." The Mozart excerpt was used as a training example, while the Haydn was a generalization example. See Rosner and Meyer, pp. 336-337.

The way in which Haydn instantiates the changing-note schema is quite straightforward. The structural tones of the schema fall at the beginnings of each measure (one through four). In measures one and three, B^4 and $C\sharp^5$ respectively are enhanced by the neighbor-tone motion around them. Also, in measure four, B^4 is confirmed by virtue of its position on two strong beats. The only potential difficulty is found in measure two, where conceivably, $F\sharp^4$ *might* be heard as the goal of the half-phrase. The changing-note schema is still viable, however, especially in retrospect. When measure three begins with $C\sharp^5$, it becomes clear that the schema being utilized is in fact a changing-note melody.

In similar fashion, the Mozart example presents an archetypal instantiation of the changing-note schema. It, like the Haydn example, is supported by the harmonic framework of I-V/V-I. One difference may be noted. Because of the prominence in the Mozart passage of the pitches $F\sharp^5$, E^5, and G^5, a secondary changing-note schema may also be heard (Graph 2). This does not mitigate the primary schema, however, since its structural pitches fall on the strongest beats.[62]

Axial melodies. An axial melody is essentially a mirrored pattern, with a single pitch as its axis.[63] As such, it is a special case of the complementary melody. Meyer diagrams the axial melody as shown in Example 4.16.

Example 4.16 Axial schema.
Reproduced from Leonard B. Meyer, *Explaining Music: Essays and Explorations* (Chicago: University of Chicago Press, 1973).
Used by permission.

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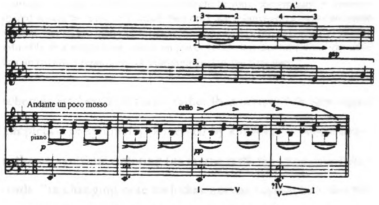
[62] The secondary changing-note schema is one that Meyer refers to as a mediant changing-note schema. See *Style and Music*, p. 234; also see chapter five of this study.

[63] Meyer credits Eugene Narmour with pointing out this type of schema, and with its name. See *Explaining Music*, p. 183n.

The letter A in this diagram represents the axis-tone, and the N represents a neighbor-tone.

Example 4.17 has an excerpt from the second movement of Schubert's *Piano Trio in B♭*, D. 898. It provides an illustration of the axial schema. Meyer observes that the cello melody, in E♭ major, begins in a manner consonant with the mediant changing-note schema ($\hat{3}$-$\hat{2}$/$\hat{4}$-$\hat{3}$). However, due to a lack of melodic elaboration, as well as the somewhat static harmony, the parallelism characteristic of changing-note schemas is attenuated. Thus, we tend to hear the pattern as one that prolongs the G[4], using neighbor-tones (F[4] and A♭[4]) which surround the axis pitch.[64]



EXAMPLE 4.17. Schubert, *Piano Trio in B♭*, D. 898, ii.
Reproduced from Leonard B. Meyer, *Style and Music: Theory, History and Ideology* (Chicago: University of Chicago Press, 1996). Used by permission.

The most important aspects of axial schemas are:

1. They are mainly formal, not processive. The implicative power of most axial schemas is minimal, because the schema is a prolongation of a single pitch. Hence, closure is also weakened.[65]

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[64] *Style and Music*, p. 241.

[65] *Explaining Music*, p. 183.

2. Meyer states that, as far as he is aware, "unequivocal instances of axial melodies do not . . . occur in the repertory of tonal music before the middle of the nineteenth century.[66] This, he claims, may be accounted for by an examination of the Romantic ideology which was gaining ascendancy in the nineteenth century. The relatively weak closure of axial schemas reflects the desire for openness and naturalness which Romanticism values.[67] In addition,

> it made the composition of quite long musical structures relatively easy. That is, because such melodies were not decisively closed, they could easily be repeated, at either the same pitch level or a new one; in this way four measures of music could be extended to eight, sixteen, or even more. And for composers who chose to rely on convention as little as possible and consequently had to make many more or less conscious, and time-consuming, compositional choices, this was not a trivial consideration. For the audience—particularly its less sophisticated members—themes of this sort had obvious advantages; though a thematic section might be long, the amount of material to be perceived and remembered would be relatively small. Not only are relationships between statements of an axial pattern redundant, but so are many of the relationships within the pattern. For on a high level the pattern is reducible to a single tone, while on lower levels the second part of the axial pattern is often understood as an inverted repetition (or complement) of the first part.[68]

3. Axial schemas are based on plans, rather than scripts.[69] In this regard, the cognitive sense of completion or symmetry perceived by a listener is based more on a simple sense of return, than a syntactic ordering (as is true with the changing-note schema). To use Meyer's words: "in changing-note melodies nurture (syntactic convention) dominates nature, while in axial melodies nature dominates nurture."[70]

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[66] Ibid., p. 184n.

[67] *Style and Music*, p. 241.

[68] Ibid., p. 244.

[69] For a definition of plans and scripts, see above.

[70] *Style and Music*, p. 244. Meyer makes the interesting assertion that axial patterns are possible in non-tonal music, while changing-note schemas are not. This would certainly seem to be borne out by examples from the non-tonal repertory. For instance, the palindromic patterns so prevalent in Webern's works may be viewed as axial schemas. While certainly possessing a sense of return, in no way can they be viewed as engendering the syntactic sense of closure that accompanies the changing-note schema.

CHAPTER FIVE

AN APPLICATION OF MEYER'S SCHEMA THEORY

SCHUBERT'S "MEIN!"

In order to understand better how schemas are instantiated in a musical work, it is helpful to examine a piece in its entirety.[1] Schubert's song "Mein!" from the cycle *Die Schöne Müllerin*, D. 795, provides a concise model. In what follows, the overall structure of the song will be commented on, followed by an analysis that includes observation of three schemas found instantiated in "Mein!" These three are 1) triadic schemas, 2) linear schemas, and 3) a changing-note schema.

Die Schöne Müllerin

Written in 1823, *Die Schöne Müllerin* is a setting of twenty poems of Wilhelm Müller. The texts chosen by Schubert are actually the first in a collection titled *Gedichte aus den hinterlassenen Papieren eines reisenden Waldhornisten (Poems from the posthumous papers of a traveling horn player).* In actuality, the entire set of poems was intended as a parody of a naive form of folk poetry which was coming to be ridiculed by the more elite writers of the time.[2]

The story told in *Die Schöne Müllerin* is of a miller, smitten by Wanderlust. This

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[1] The full score of this song may be found in Appendix D.

[2] Dietrich Fischer-Dieskau believes that, in opting not to set the somewhat explanatory prologue and epilogue, Schubert was demonstrating how seriously he took the poetic material. See Fischer-Dieskau, ***Schubert's Songs: A Biographical Study*** (New York: Alfred A. Knopf, 1981), pp. 174-175.

insatiable desire, the miller claims, was actually learned from the water, the mill-wheels, and the millstones. It is important to understand this sort of anthropomorphism, since it virtually informs the entire song cycle.[3] As the miller travels, he falls in love with a maid, only to have his heart broken by her love for another (Der Jäger). The cycle concludes with an archetypal Romantic scenario: the miller, spurned by the object of his love, returns to the brook. The text remains somewhat ambivalent concerning the miller's fate. Does he merely sleep by the brook, or is the final song one that describes his own self-destruction?[4]

Mein!

Coming near the mid-point of Schubert's *Die Schöne Müllerin*, "Mein!" is one of the most exuberant of the cycle's songs. The text records the miller's extravagant joy over the thought of the maid of the mill belonging to him. Compared to his voice, the sounds of nature around him are nothing:

> Brooklet, rush no more!
> Mill-wheels, stop your rumblings!
> All you merry woodland birds,
> Sing no more!
>
> Through the woodland, to and fro
> Let one rhyme alone be heard,
> The beloved maid of the mill
> Is mine, is mine![5]

"Mein!" provides something of an emotional contrast between both the melancholic

---

[3] For example, in *Wohin?*, the wanderer is drawn along by the flowing of the brook. He is welcomed by the song of the mills (*Halt!*), and asks of the brook, "War es also gemeint?" And the final anthropomorphic text is found in *Des Baches Wiegenlied*, in which the brook actually speaks to the love-sick traveler.

[4] These matters—the yearning after an unattainable love, and the ambiguity of the conclusion—are important elements in the consideration of Schubert's setting. Meyer contends that Romantic ideology is reflected in musical structures. See *Style and Music*, pp. 163-217.

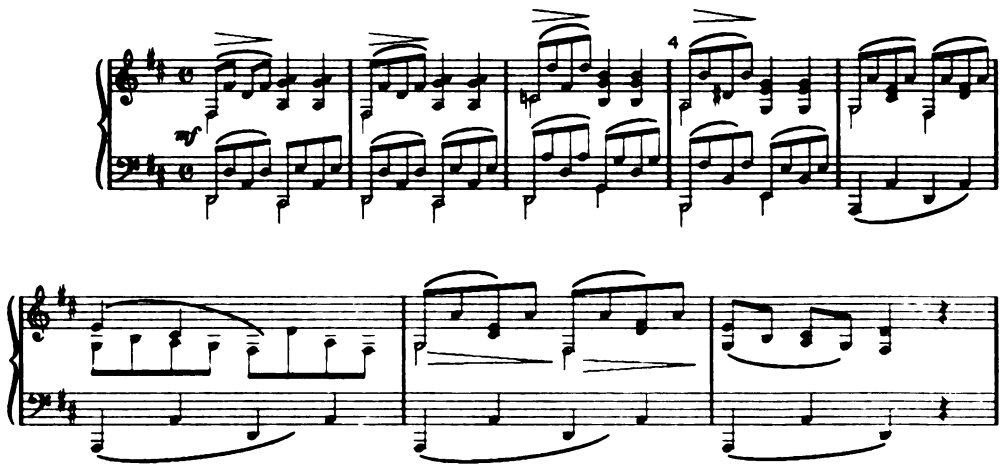
[5] English translation by Gerard Mackworth-Young (New York: International Music Company, 1961).

"Tränenregen" and the reflective "Pause."

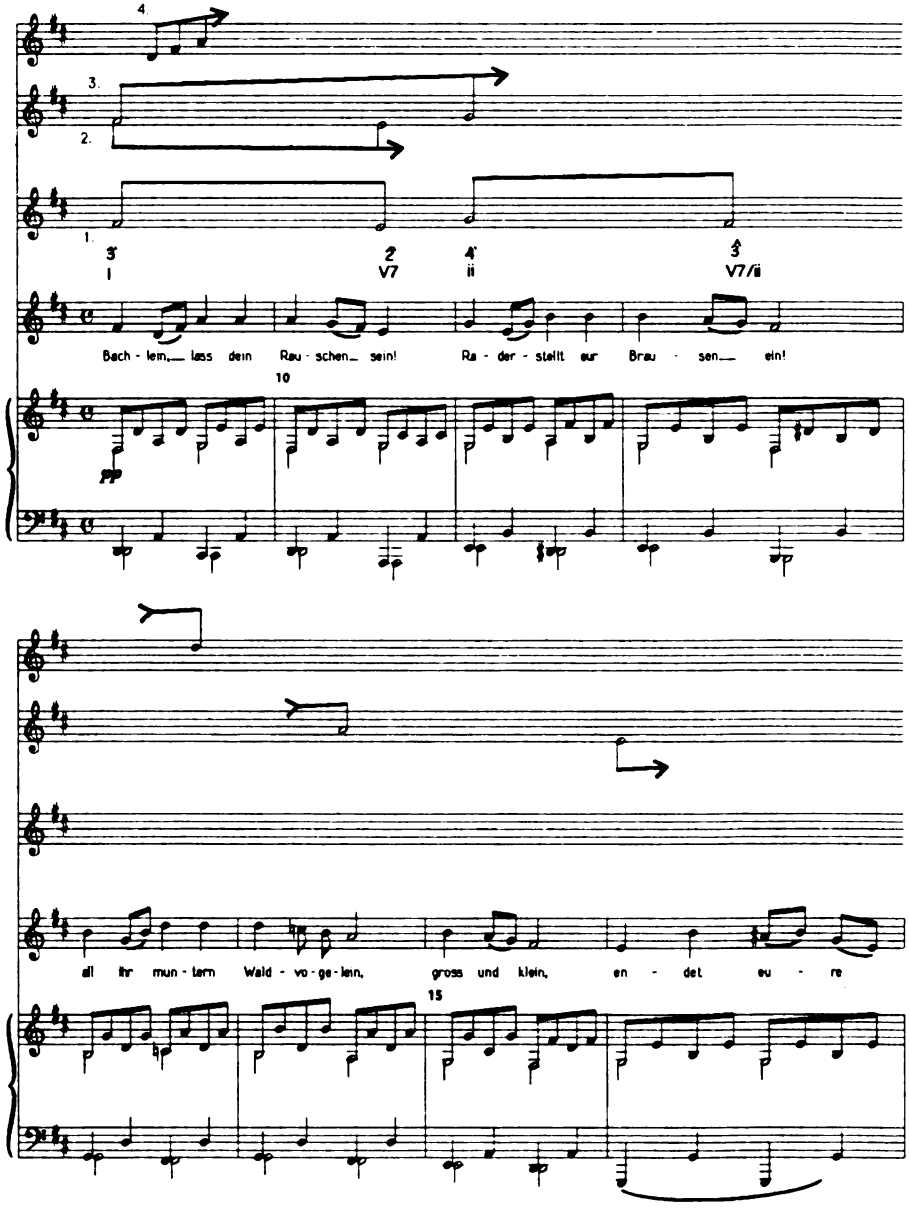
The song is set in clear ternary form. Schubert mirrors this three-part form in his use of the text, repeating stanzas one and two when the *A* section of the music returns. The overall form of the song is:

	Measures	Music	Text
A	1-8	Introduction	
	9-21	*a*	Stanza 1
	22-37	*b*	Stanza 2
B	38-40	Transition	
	41-60	*c*	Stanza 3
	60-63	Re-transition	
A	64-76	*a*	Stanza 1
	77-92	*b*	Stanza 2
	93-95	Extension	
	95-103	Piano	

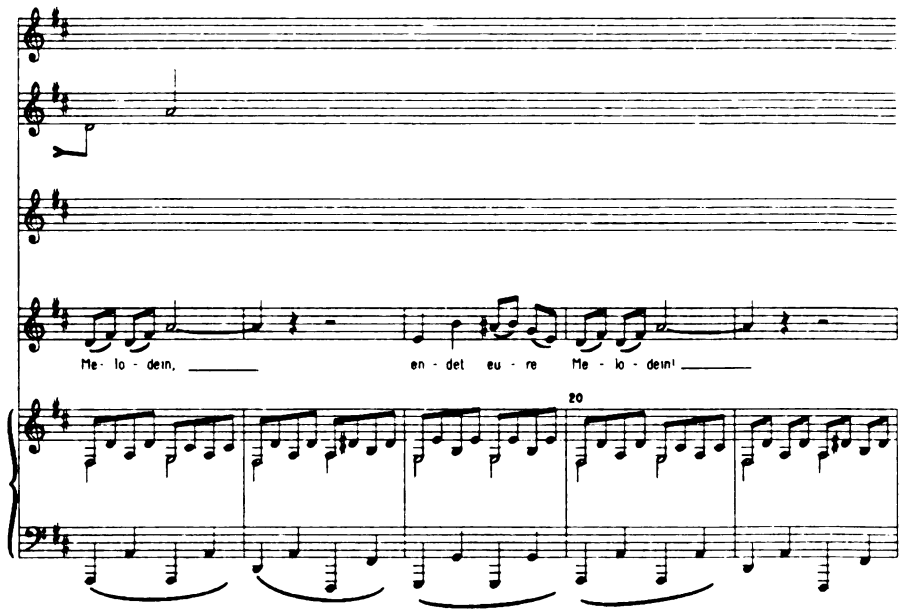
After an eight-measure piano introduction, shown in Example 5.1, the melody enters and is given the entire first stanza in just ten measures (13 measures if the text repetition is included).



EXAMPLE 5.1. Schubert: "Mein!", Piano introduction.



EXAMPLE 5.2. Schubert, "Mein!" from *Die Schöne Müllerin*, D. 795. (mss. 9-21)



EXAMPLE 5.2. (cont'd.) Schubert, "Mein!" from *Die Schöne Müllerin*, D. 795. (mss. 9-21).

A Schema-theoretic Analysis

Example 5.2 illustrates the various implicative processes present in this opening stanza. Perhaps the most readily noticeable is the changing-note schema (mss. 9-12, graph 1). Because of the agogic accents on *sein* and *ein*, and the metric accents on *Bäch-* and *Rä-*, the changing-note schema is clearly perceptible. What is noteworthy in this case is that the schema is instantiated as $\hat{3}$-$\hat{2}$/$\hat{4}$-$\hat{3}$, a pattern Meyer refers to as a mediant changing-note schema.[6] This version of the schema is less closed than is $\hat{8}$-$\hat{7}$/$\hat{2}$-$\hat{1}$, and in fact contains dual implications. Example 5.3 illustrates the way in which both continuation upward to 5, and descent to $\hat{1}$, are implied by the schema.[7]

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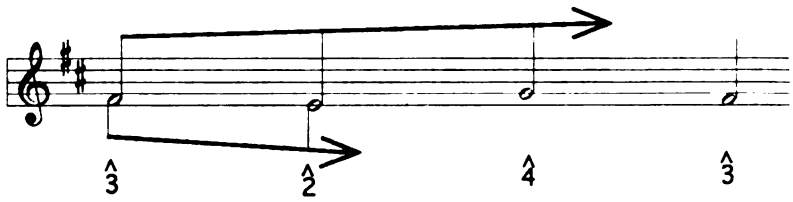
[6] *Style and Music*, p. 227.

[7] Ibid., p. 234.



EXAMPLE 5.3. Changing-note schema, showing dual implications.

These twin implications become important to further study of "Mein!" As graph 2 of Example 5.3 illustrates, the descending motion implied by F♯⁴-E⁴ is realized, at least provisionally, with the D⁴ in measure 17.[8] In fact, not until measure 95, and the final pitch, do we hear a completely satisfactory realization of the implied D⁴!

Simultaneous with this process is the ascending linear process that begins F♯⁴-G⁴ (graph 3). In this case, continuation on to A⁴ is implied, and if the metrical pattern (every two measures) were to hold, A⁴ would be reached in measure 13. Instead, however, Schubert gives us B⁴, delaying A⁴ until measure 14. This pitch (A⁴) remains prominent throughout section *a*, where it lends a sense of openness to the melody.

Another aspect of Schubert's instantiation of the changing-note melody may be noted. Instead of supporting the schema with the harmonic plan I-V:V-I (see Ex. 4.14), Schubert chooses I - V⁷:ii - V⁷/ii. This is an example of what Meyer calls "disguise through divergence." While the schema is clearly present, its conventionality is disguised by a modification of what might be the expected classic instantiation.[9]

Concurrent with the changing-note schema and linear process we have observed, there exists in this melody a clear triadic schema (graph 4). The motion from F♯⁴ down to D⁴, then back through the triad to A⁴, carries with it the implication that D⁵ may well be reached. This implication is strengthened by the sequential treatment in measures 11 and

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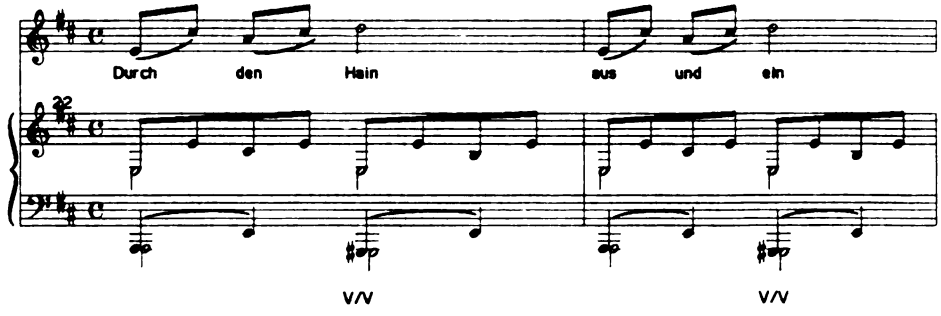
[8] A provisional realization is one in which the implied pitch is given, but not in the most satisfying context, given the generating pattern. Thus, in this case, though D⁴ is present, it is quickly left, and the supporting second-inversion tonic harmony is not particularly stable. See *Explaining Music*, p. 117.

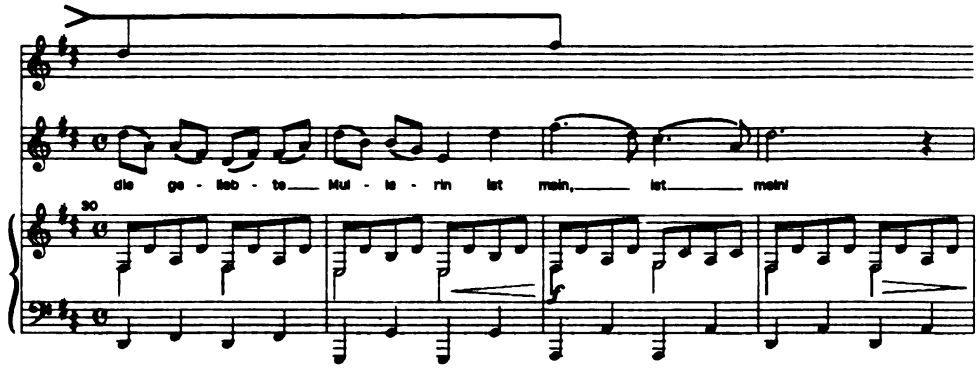
[9] *Style and Music*, pp. 226-231.

12. Here the triadic schema intensifies the implication that the upper octave will be reached. After expanding the interval in measure 13, Schubert does realize the D^5. While this pitch provides the goal tone implied earlier, it is somewhat provisional, since it occurs on beat three, and perhaps more importantly, is supported, not by tonic harmony, but by V/IV.



EXAMPLE 5.4.
Schubert, "Mein!" from *Die Schöne Müllerin*, D. 795 (mss.22-23)

The importance of provisional realization of prior implications is evident in "Mein!" In measures 22-23, as section *b* begins, there is another realization of the goal tone. This time, D^5 is a half-note, and is therefore somewhat more prominent than in measures 13-14. However, in both measures 22 and 23, D^5 occurs on beats three and four, and this time is supported by V/V (Ex. 5.4). Not until measure 30 is there a D^5 which occurs on beat one and is supported by tonic harmony. Example 5.5 shows this realization (mss. 30-33).



EXAMPLE 5.5.
Schubert, "Mein!" from *Die Schöne Müllerin*, D. 795 (mss. 30-33)

In these final measures of section *A*, the goal of the initial generative event (triadic schema) is finally reached. In fact, Schubert actually extends the schema to $F\#^5$ (ms. 32), as the cadential gesture concludes section *A*.

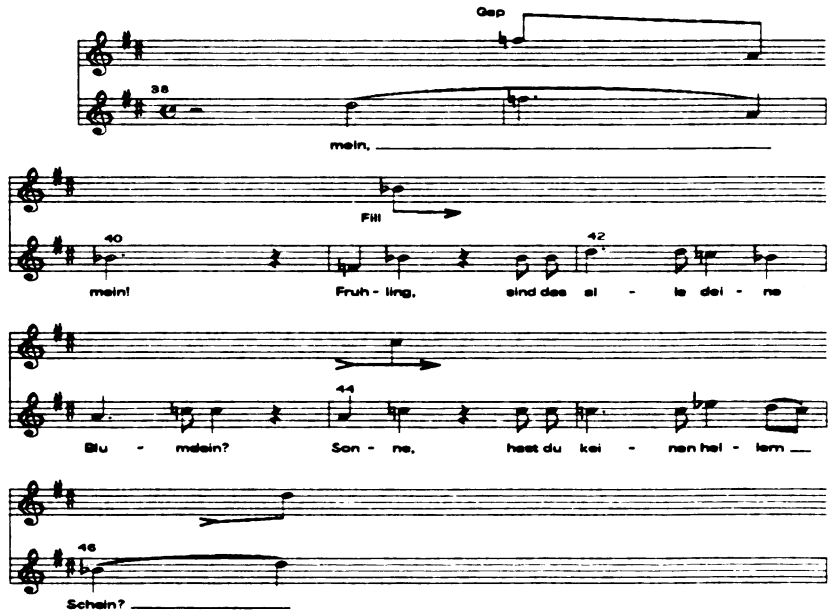
The result of Schubert's provisional realizations (mss. 13-14, 22-23, and 26-27), followed by a more complete realization (mss. 30-31, and 34-35) is that the stanza's climax, while foreshadowed by the provisional realizations, is delayed until very near its conclusion. This delay matches the sense of the text, as the miller cries, "The lovely miller-maid is mine!"

A four-measure transition (mss. 37-40) modulates to $\flat$VI:

D: I - i

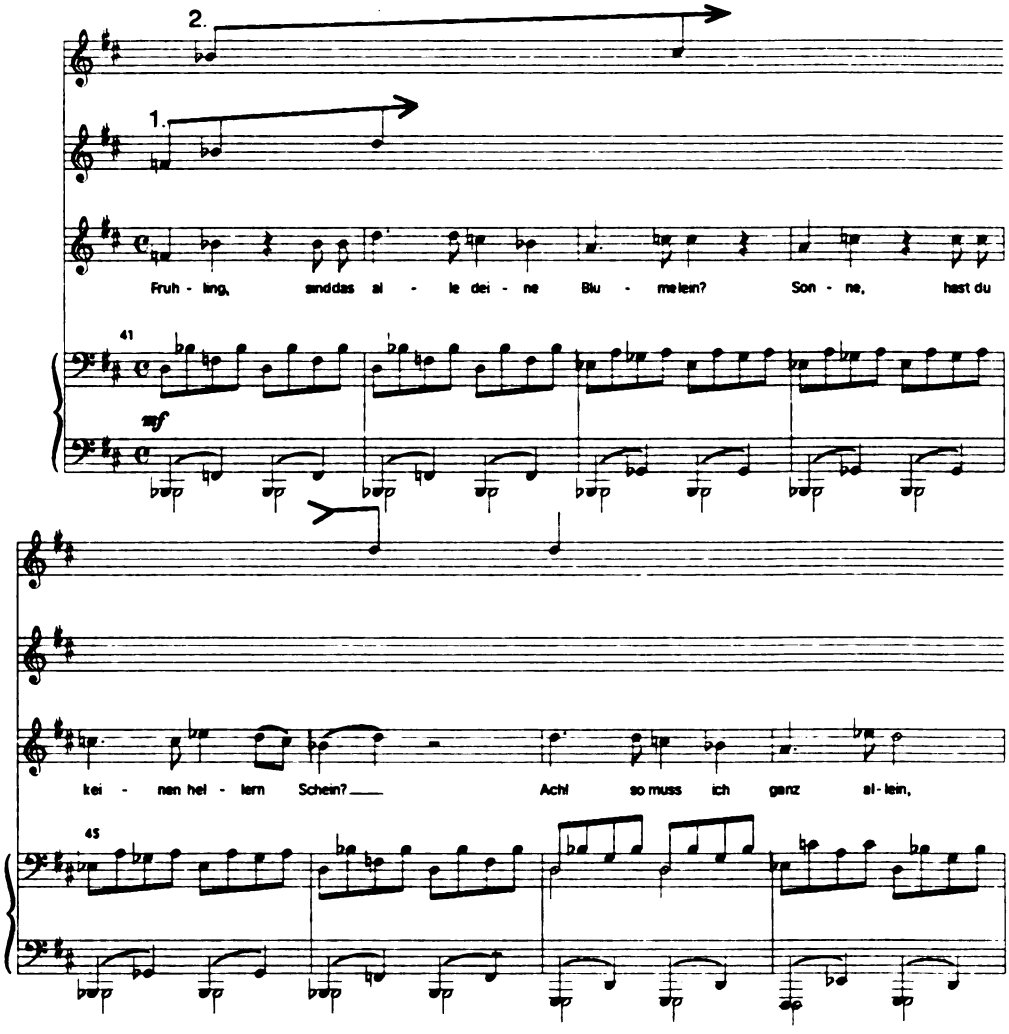
$B\flat$: iii - V^7 - I

Schubert condenses the interval D^5-$F\#^5$ that occurs on the text "ist mein" (mss. 31-32), now providing D^5-F^5 (mss. 38-39). The descending minor sixth (F^5-A^4) in measure 39 also becomes a generative gap-fill schema. Example 5.6 illustrates how Schubert partially fills the gap in the following measures.

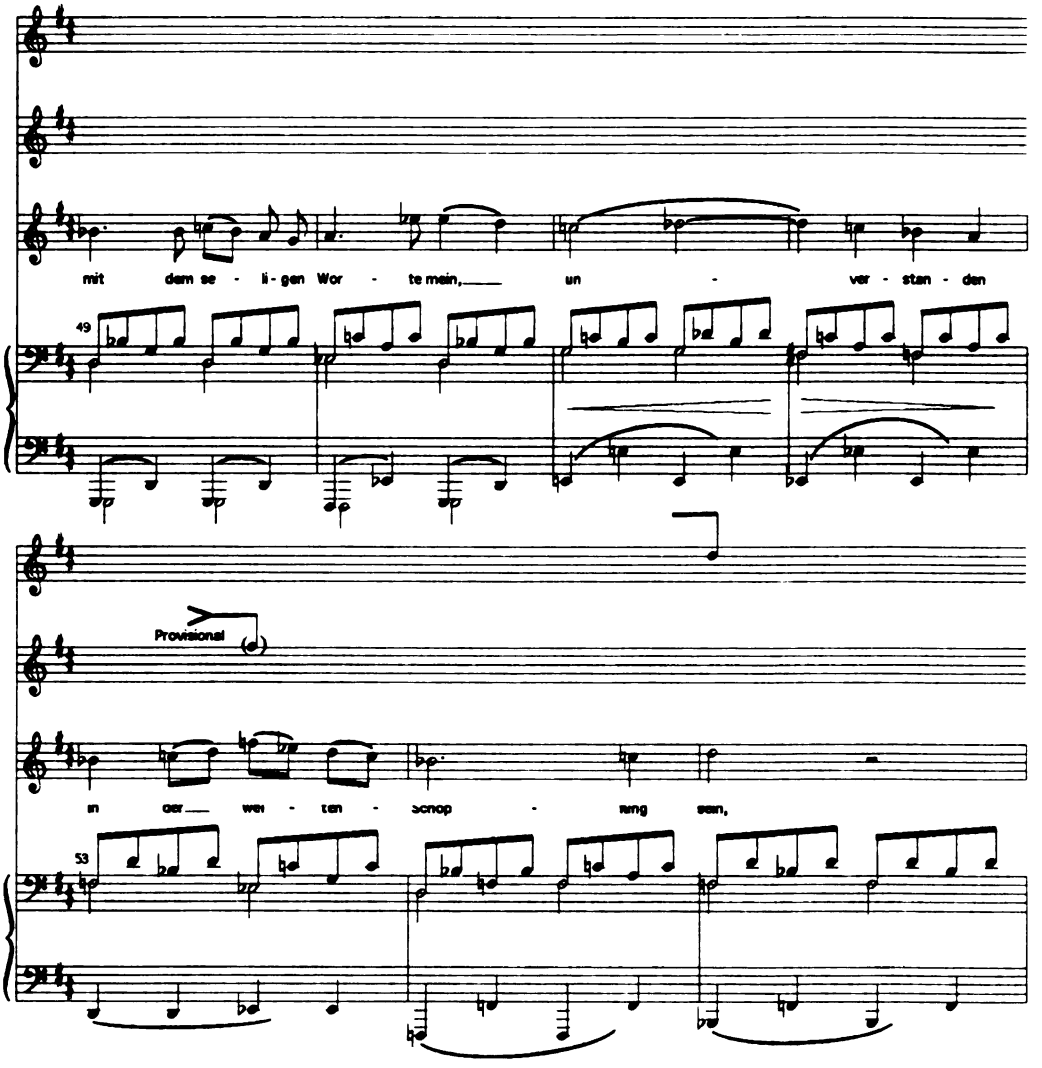


EXAMPLE 5.6.
Schubert, "Mein!" from *Die Schöne Müllerin*, D. 795 (mss. 38-46)

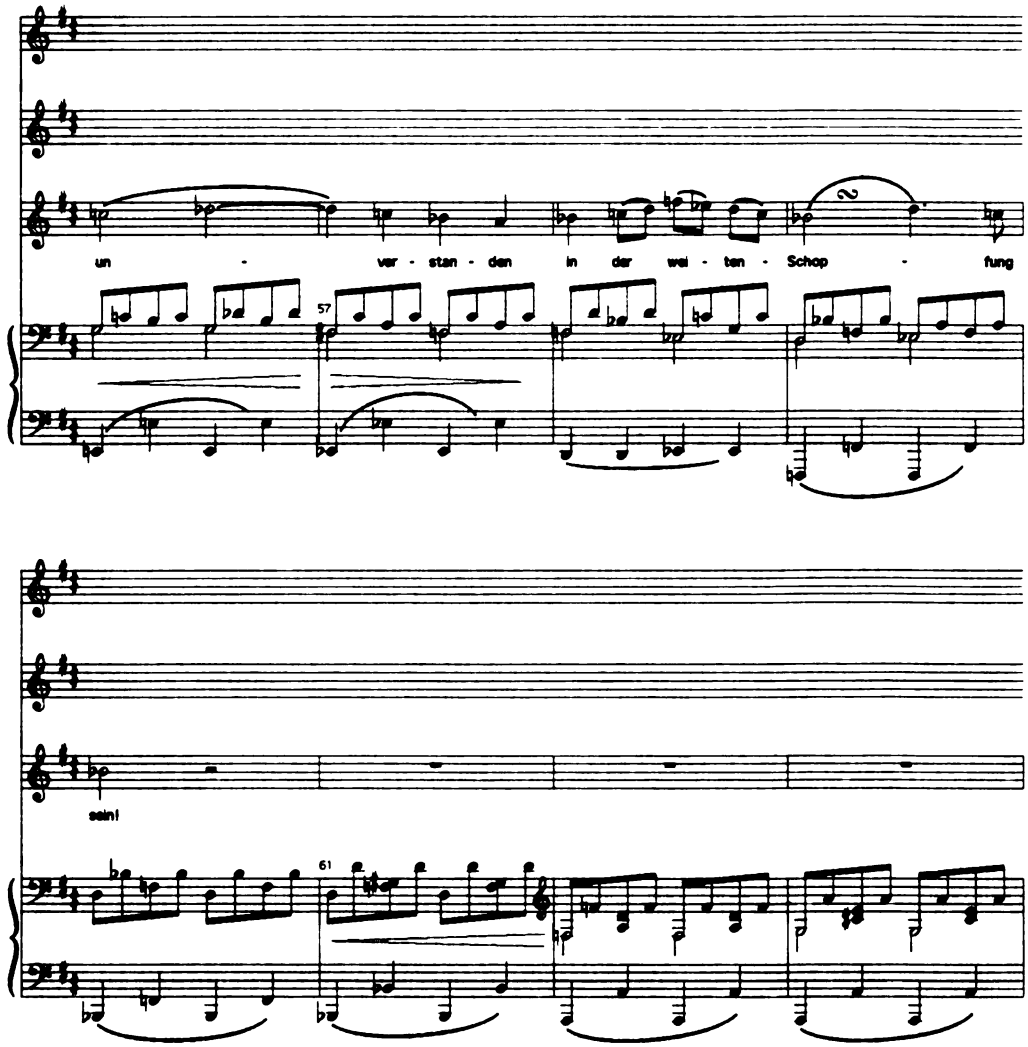
Section *B* of "Mein!" shares some important characteristics with section *A*. Example 5.7 shows measures 41-63.



EXAMPLE 5.7.
Schubert, "Mein!" from *Die Schöne Müllerin*, D. 795 (mss. 41-63)



EXAMPLE 5.7. Schubert, *"Mein!"*, mss. 41-63 (cont'd.)



EXAMPLE 5.7. Schubert, *"Mein!"*, mss. 41-63 (cont'd).

Immediately we note the triadic schema instantiated in measures 41 and 42 (graph 1). As in section *A*, continuation to F^5 is implied. And, also as in section *A*, the ascending process is reversed in measure 47 (cf. ms. 15). F^5 is reached in measure 53, but only provisionally, since its prominence, both metrically and harmonically, is minimized.

As is true in section *A*, this section also features a concurrent linear process. Graph 2 shows the rise from $B^{\flat 4}$ (ms. 41), through C^5 (ms. 43), and on to D^5 (ms. 46). And, as

before, the linear ascent is broken off, this time rising no higher than a structural D^5 (mss. 47-48 and 55) before giving way to a cadence (mss. 58-60).

After a retransition using the harmonic plan

$B^{\flat}$: I - V^7/IV

d: G_6 - i - V^7

D: V^7 - I

Schubert begins the re-statement of section *A* (both musically and textually). Since the re-statement duplicates exactly the original statement, with the exception of the extension in measures 93-95, little needs to be said. It is noteworthy, however, to observe the way in which Schubert re-emphasizes the goal tone $F\sharp^5$ in measure 93. Set off by repetition, metric position and agogic accent, the pitch clearly stands as the goal of the triadic patterning established at the outset of the song (Ex. 5.2, graph 4).

Conclusion

In this analysis of "Mein!" we have observed how Meyer's theories of schema instantiation provide insight into melodic implications and their realizations. In "Mein!" a triadic schema generates implications for continuation to a structural $F\sharp^5$—a goal that is reached provisionally in measures 32 and 36, and again at measures 86 and 91, but most definitively at measure 93.

In addition, an ascending linear process, begun in measures 9-11 as well as measures 41-43, is also operative. Combined with the triadic implications, this ascending linear pattern provides "Mein!" with a general sense of anticipation that culminates in the final exclamation: "mein, ist mein!"

CHAPTER SIX

THE LEGACY OF LEONARD B. MEYER

Meyer and His Disciples

It is not surprising that Meyer's ideas about music, freighted as they are with implications, have provided material for much subsequent study. In what follows, the work of three of Meyer's disciples—Eugene Narmour, Robert Gjerdingen, and Robert Hopkins—is briefly examined. Each of these scholars wrote doctoral dissertations during one of Meyer's academic tenures—Narmour at the University of Chicago, and Gjerdingen and Hopkins at the University of Pennsylvania.[1] The chapter concludes with a discussion of Meyer's more recent views on musical style.

Eugene Narmour: Beyond Schenkerism

At the time of this writing, Eugene Narmour serves on the faculty of the University of Pennsylvania. In his 1977 book *Beyond Schenkerism: The Need for Alternatives in Music Analysis*,[2] Narmour develops a critique of Schenkerian theory, going so far as to say that, while a great debt is owed to this revolutionary way of theorizing, Schenker's ideas are nonetheless "fatally defective in several crucial ways."[3]

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[1] See the introduction to this thesis, footnote 1.

[2] Narmour, *Beyond Schenkerism.*

[3] Ibid., p. 2.

Narmour spends a good deal of time discussing Schenker's system as an axiomatic entity—one where "structures are generated from a 'base component,' the Ursatz."[4] In other words, fore- and middle-ground features are generated by entities that are axiomatic in nature; i.e. the Ursatz, the Urlinie, and the Grundbrechung are all taken as self-evident. Thus, Narmour believes that Schenkerism commits the a priori error:

> The a priori error consists in attempting to establish knowledge of fundamental synthetic truths on something other than empirical evidence. A priori facts are usually extracted from the language of which they are a part in order to give them an authority they do not deserve. Schenker puts forth the *Ursatz* as a basic musical "truth" without giving us acceptable a priori facts.[5]

All of this means, for Narmour, that Schenkerism is a rationalistic, not an empirical, system.[6] And therein lies its fatal flaw. The sheer rationalistic nature of the system, with its a priori acceptance of background features, commits the logical fallacy known as "affirming the consequent:"

> If the *Ursatz* is a structural hypothesis, then it will be successful in analysis. If it is successful, then it must *be* the structure. Simply put, there is no separation between Schenker's epistemology and his methodology. . . . Derivation and result are confused. Source and goal—cause and effect—are the same.[7]

As an alternative to this approach to analysis, Narmour suggests his Implication-Realization model.[8] This model replaces a "descending series of transformations," characteristic of Schenker's view of the Ursatz, with a "dynamic structuring" generated by

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[4]Ibid., p. 12.

[5]Ibid., p. 26, n24.

[6]Ibid., pp. 13, 24.

[7]Ibid., pp. 29-30.

[8]Though Meyer had discussed tonal implications and their subsequent realizations in *Explaining Music* (see pp. 109 ff.), Narmour is the first to apply the term *implication-realization*.

individual, foreground parameters.[9] In essence, the understanding of a piece of music comes as a result of temporal progression, as the listener attends to foreground parameters and their interaction.[10] When utilizing the Implication-Realization model, the theorist is not so much in search of some background generating event (such as the Ursatz), as in how all of the foreground parameters interact to create articulation (form) and ongoing implications (process).[11] Some of these implications will be realized, but many will not. Thus, says Narmour, "the structure of an event lies in the dichotomy between process and form—a relationship of implications to both realization AND nonrealization."[12] This, of course, is an echo of what Meyer had postulated in his *Explaining Music*.[13]

Understanding foreground musical implications and their parametric interaction is also the concern of another of Meyer's disciples: Robert Gjerdingen.

Robert Gjerdingen: A Schema Across Time

Robert Gjerdingen's book *A Classic Turn of Phrase: Music and the Psychology of Convention* appeared in 1988. In this study, Gjerdingen traces the presence of a specific musical schema[14] through almost 200 years of compositional usage. The schema is familiar to Meyer's readers: the changing-note pattern $\hat{1}$-$\hat{7}$/$\hat{4}$-$\hat{3}$.[15] Gjerdingen posits the existence of a bell-type curve—one in which the peak frequency of occurrences of the

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[9] Narmour, p. 122.

[10] Ibid., pp. 123, 126.

[11] Ibid., pp. 124-125.

[12] Ibid., p. 125.

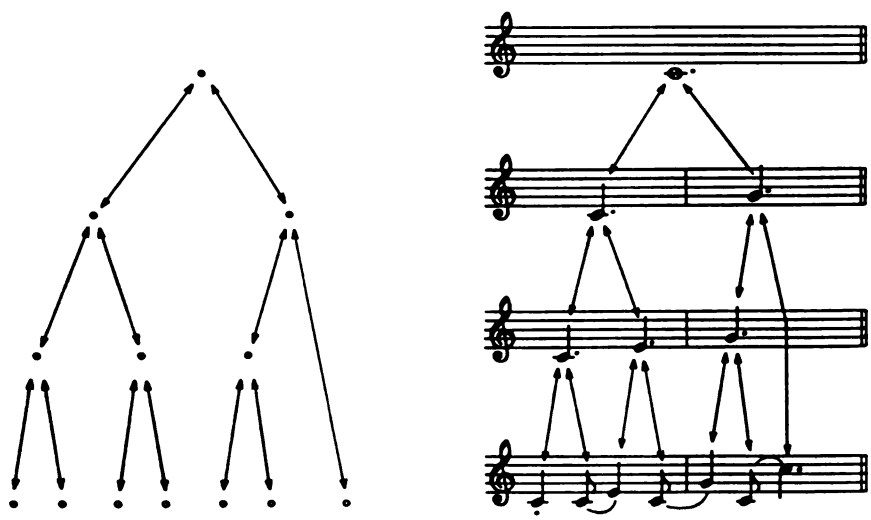
[13] The second half of *Explaining Music* is titled "Implications in Tonal Melody," and explores this very notion of implication and realization. Narmour credits Meyer with the concept, and traces Meyer's conceptual journey from a theory of expectation to a theory of implication. See Narmour, pp. 136-137.

[14] For more on the definition and concept of a schema, see chapter four of this study.

[15] See *Style and Music*, especially chapter seven.

schema as well as conformance to an ideal model—occurs between 1771 and 1773.[16] Prior to and after this time, both frequency of occurrence and typicality, fall off in conformity to a statistical curve.

Before commencing this statistical study, Gjerdingen sketches a comparative picture of tree-structures and networks. Tree-structures include the well-known pitch-reduction studies, similar to the one shown in Example 6.1.

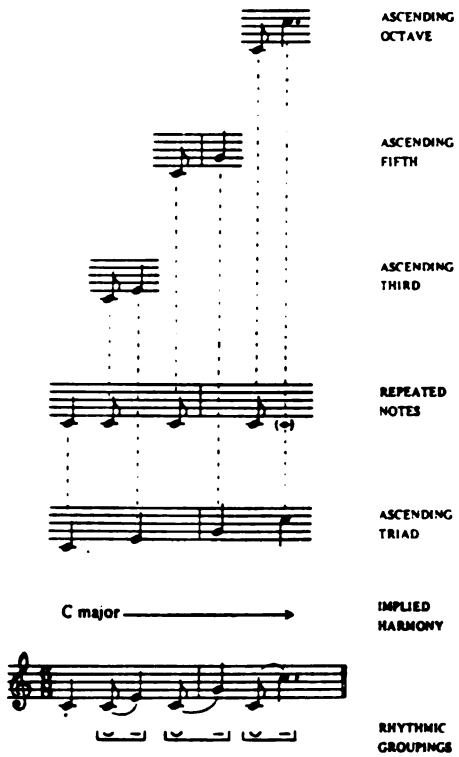


EXAMPLE 6.1. Tree structure reduction of a hypothetical melody. Reproduced from Robert Gjerdingen, *A Classic Turn of Phrase: Music and the Psychology of Convention* (Philadelphia: University of Pennsylvania Press, 1988). Reprinted by permission of the University of Pennsylvania Press.

[16] Gjerdingen, p. 159.

Here, through a process of ascertaining tonal importance, the foreground melody is reduced to a single pitch, C^4.

In contrast, the network representation of the same melody might appear as in Example 6.2.



EXAMPLE 6.2. Network representation of a hypothetical melody. Reproduced from Robert Gjerdingen, *A Classic Turn of Phrase: Music and the Psychology of Convention* (Philadelphia: University of Pennsylvania Press, 1988). Reprinted by permission of the University of Pennsylvania Press.

In the case of the network representation, the theorist is enabled to show multiple aspects of a given melodic structure. Instead of being reduced to a single pitch, the melody is shown as a network of simultaneously-occurring events. This makes room for what Narmour calls the "simultaneously 'incompatible' or 'contradictory' reduction on lower levels."[17]

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[17] *Beyond Schenkerism*, p. 24.

Gjerdingen believes that this sort of network representation of musical structure places no initial constraints on analysis.[18] It is clear that Gjerdingen is concerned, as are both Narmour and Meyer, with a theoretical approach that values empirical observation over mere rationalism:

> What profit is there in hammering out a dogmatic analysis of a musical composition if those melodic or formal elements that we perceive to be present must be effaced in the process? *Surely it is not the goal of musical analysis to be systematic at all costs.*[19]

Robert Hopkins: Closure and Music

In at least three of his books,[20] Meyer deals in some way with closure in music. In *Explaining Music*, he states that "closure—the arrival at relative stability—is a result of the action and interaction among the several parameters of music."[21] An elaboration of the multi-parametric aspect of this definition comes in *Style and Music*:

> In emphasizing the importance of syntactic constraints for the specification of closure, I do not wish to imply that the secondary parameters do not have preferred closural states. They do. For example, gradual lowering of dynamic level, slowing of tempo, reduction of overall rate of activity, simplification of texture, use of less discordant intervals, and, in nontonal music, descending pitch contours all are signs of impending closure.[22]

And Meyer believes that

> as the nineteenth century continued, the roles of the secondary parameters—the "natural" means of music—came to be more and more important relative to the primary, syntactic ones in shaping musical process and structure.[23]

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[18] Gjerdingen, p. 22.

[19] Ibid., p. ix. Italics added.

[20] See *Emotion and Meaning in Music*, *Explaining Music*, and *Style and Music*.

[21] *Explaining Music*, p. 81.

[22] *Style and Music*, pp. 15-16.

[23] Ibid., p. 210.

It is just this thesis—that in Romantic music, secondary parameters became increasingly important in articulating process and structure—that interested Robert Hopkins. His doctoral dissertation on secondary parameters and closure was later adapted to become *Closure and Mahler's Music: The Role of Secondary Parameters.*[24]

Hopkins reviews the basic elements of musical relationships, pointing out that musical elements may be related in one or more of three ways:

1. Conformance (similarity)
2. Syntax (processive relationship)
3. Intensification/abatement of secondary parameters

It is the third of these relationships with which Hopkins subsequently deals.

Secondary parameters, discussed at some length by Meyer,[25] are those parameters of musical sound that can not be ordered syntactically. Instead, they are statistical in nature (little vs. much, faster vs. slower). As such, they can not, on their own, articulate musical closure.[26] Hopkins enumerates six main categories of secondary parameters:

1. Registral pitch (high vs. low, but not in syntactic relationship)
2. Concordance (relatively stable vs. relatively unstable sonorities, not based on harmonic progression)
3. Dynamics
4. Durations
5. Timbre
6. Components (the number of differentiated strata in a work, or section of a work)

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[24] See Robert Hopkins, "Secondary Parameters and Closure in the Symphonies of Gustav Mahler." Ph.D. diss., University of Pennsylvania, 1983. Also, *Closure and Mahler's Music.*

[25] See *Style and Music*, especially chapters six through eight. Also see *Music, the Arts, and Ideas*, pp. 247-248, and 284-285. Here Meyer's discussion of secondary parameters relates to the viability of experimental and complex music.

[26] *Style and Music*, p. 14.

Categories three, four, and five may be simple (relating to one element), or compound (several elements affected simultaneously). Hence, there are actually a total of nine secondary parameters that may be operating in a musical work.[27]

With these categories in mind, Hopkins explores Mahler's use of secondary parameters to effect musical closure. Since, for example, traditional cadences were becoming less frequent in his music, Mahler's use of some of these secondary parameters became more important.[28] This idea, of course, is explored at length in *Style and Music*:

> Complementing the trend toward syntactically weakened harmonic and tonal relationships was an increase in the relative importance of secondary parameters in the shaping of musical process and the articulation of musical form.[29]

Using charts that superimpose the secondary parametric categories upon the score, Hopkins is able to demonstrate Mahler's use of abatement in effecting closure (Example 6.3).[30]

It is clear that much more work needs to be done in an area where, because they are not quantifiable, non-syntactic parameters have largely eluded the analyst's tools. Hopkins' work provides a start in this direction.

Style and Style Change: Meyer's Most Recent Views

Central to Meyer's analytical work is his definition of style: "Style is a replication of patterning . . . that results from a series of choices made within some set of constraints."[31]

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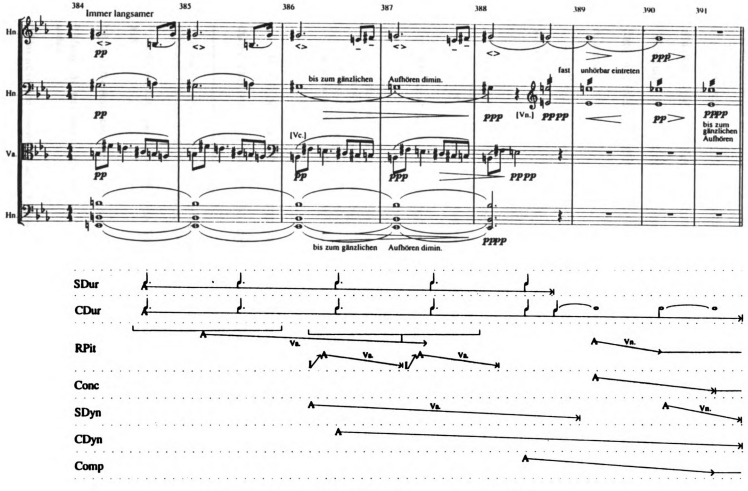
[27] Hopkins, pp. 34-63.

[28] Ibid., pp. 65-67.

[29] *Style and Music*, p. 303.

[30] Hopkins defines abatement as a type of directed motion created by a parametric change, or changes. Specifically, abatement tends to lower tension, or lessen activity. These abatements may lead to closure. See Hopkins, p. 5.

[31] *Style and Music*, p. 3.



EXAMPLE 6.3. Mahler, *Symphony No. 2*, 1 mss. 384-91.
Reproduced from Robert Hopkins,
***Closure and Mahler's Music: The Role of Secondary Parameters* (Philadelphia:**
University of Pennsylvania Press, 1990).
Reprinted by permission of the University of Pennsylvania Press.

It is clear that Meyer has been concerned with style—its description, criticism, and evolution—for much of his career.

It is interesting to examine what changes, if any, there are in Meyer's views of musical style. Fortunately, he has given us a window into this question by writing a new "Postlude" to *Music, the Arts, and Ideas*.[32] Coming more than 25 years after the original date of publication, this addition allows Meyer to take an updated look at music as it relates to culture.

In the 1967 edition of *Music, the Arts, and Ideas*, Meyer had posited a situation in which

> a multiplicity of styles, techniques, and movements, ranging from the cautiously conservative to the rampantly experimental, will exist side by side: tonality and serialism, improvised and aleatoric music, as well as jazz with its many idioms, and popular music.[33]

Meyer describes what he refers to as a "fluctuating stasis:"[34]

> Though new idioms and methods may be developed, they will not displace existing ones. *The gamut of possibilities*—from completely preplanned order to total chance, from teleological structure to goalless meandering, from syntactic formalism to subjective psychologism, from the explicitly analytic to the essentially mystic—*has all but reached its limit.*[35]

It will be recalled that Meyer believes that cultural ideology bears directly on musicians' choices.[36] He continues to hold this view:

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[32] Leonard B. Meyer, *Music, the Arts, and Ideas: Patterns and Predictions in Twentieth-Century Culture* (Chicago: University of Chicago Press, 1994), pp. 317-349.

[33] *Music, the Arts, and Ideas* (1967), pp. 208-209. Quoted in *Music, the Arts, and Ideas* (1994), p. 317-318.

[34] *Music, the Arts, and Ideas* (1994), p. 317.

[35] *Music, the Arts, and Ideas* (1967), p. 209. Quoted in *Music, the Arts, and Ideas* (1994), p. 318. Italics added.

[36] This inference is widespread in *Style and Music*. See, for example, chapters three through five.

> Changes in the choices made by composers, the ideas promulgated by theorists, and the predilections of listeners are seldom solely a result of purely music-historical processes. Nor is technology a sufficient condition for the changes that have been taking place in the composition and reception of music. Rather, changes in musical style follow from changes in the ideological environment of a culture: the environment in which composers choose musical relationships, theorists speculate about them, and listeners strive to comprehend them.[37]

Given this belief that ideology is the "translation code" which links music to other cultural parameters,[38] it is fascinating to read Meyer's thoughts about the state of music and musical styles late in the twentieth-century. Meyer observes that Western ideology has undergone a significant change over the past 75 years—a change that is about *change itself.* Briefly stated, Meyer contends that, through the Middle Ages, Western culture had been dominated by a view of the past as a "golden age." A hierarchic order, both in nature and in society, provided the beliefs and values to which society looked for security.[39]

After the fifteenth-century, Western culture's so-called golden age moved to the future. According to Meyer, this shift was due, at least in part, to the successes of science. Now the future could be "envisaged and . . . controlled."[40]

Now, however, because of a shaken confidence in the doctrine of determinism, and a questioning of the ability to arrive at ultimate truth, Western culture has entered an age of cynicism: "the idea that progress is inherent in the processes of history no longer seems credible."[41] The important aspect for Meyer's purposes is what relationship this cultural ideology has to aesthetic goals and processes. Meyer believes, for instance, that "causal certainty has given way to statistical probability."[42] Citing trends in the social sciences,

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[37] *Music, the Arts, and Ideas* (1994), p. 327.

[38] Ibid., p. 328.

[39] Ibid., pp. 328-329.

[40] Ibid., p. 329.

[41] Ibid., pp. 328-331. This cultural cynicism and the end of "historic optimism," according to Meyer, mark the beginning of postmodernism.

[42] Ibid., p. 331.

the physical sciences, and even mathematics, Meyer contends that explanations of reality that are noncausal and nonlinear have eventuated in "a kind of epistemological pluralism in which statistical and probability models, as well as the Darwinian selection model, coexist alongside the causal model."[43] Ultimately these cultural beliefs have encouraged a pluralism of styles—a pluralism that is characteristic of the twentieth-century.[44]

Meyer's insistence on choice as a vital component in the creation of style systems may be seen in another quotation from his "Postlude." In this case, however, perhaps the proliferation of choices has run amok:

> Our pluralistic culture provides us with a plethora of possibilities from which to choose but fails to provide adequate constraints—the common values and clear goals that guide human choice. And though the existence of alternatives is a sine qua non of choice and hence of freedom, in the absence of adequate constraints a host of possible options can also be a source of severe anxiety.[45]

How do the cultural beliefs in stylistic pluralism and a noncausal view of reality eventuate in musical works? Meyer gives us several observations, a few of which are enumerated here.

First, the demise of the Idea of Progress means that innovation is perhaps not as valued as it once was. If one can not know the future (or believe that it is in some way knowable), and if a linear, causal view of the future is attenuated, then innovation and creativity are likely to be less valued. Thus, Meyer believes that "few 'hats-off' geniuses will be hailed in the coming years, and creativity will involve not the devising of new constraints . . . but the inventive permutation and combination of existing constraint-modes, especially as manifested in stylistic eclecticism."[46]

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[43] Ibid., p. 332.

[44] Ibid.

[45] Ibid., p. 336.

[46] Ibid., p. 343.

Corollary to this belief is Meyer's speculation that eclecticism will be intra-opus, not just inter-opus. Thus, Meyer sees a compositional style that features pastiche-like writing. In such cases, Meyer contends, the pleasure of listening is in recognition of the familiar. But the familiarity is not syntactic familiarity, but rather recognizable foreground events. This, in the midst of cultural pluralism, may provide a certain sense of security to the listener.[47]

We conclude with one final observation which Meyer makes about culture and musical aesthetics in the late twentieth-century. In *Style and Music*, Meyer states that he believes in the persistence of Romanticism into the twentieth-century.[48] One of the tenets of Romanticism is its egalitarianism.[49] This valuing of democratic ideals found its aesthetic counterpart in a devaluing of musical convention. Composers of the Romantic period sought, and often found, ways of disguising conventional schemas.[50] There was an increasing emphasis placed on the "natural" means of musical expression—means that presumably were more easily apprehended by a general public.[51]

Meyer believes that egalitarianism, still very much a valued idea in our culture, continues to drive musical choices. For example, one prevalent belief is that "taste should be natural, not cultivated."[52] Those musical parameters that are not dependent for their understanding on learning are more visible in the music of our time. To witness, Meyer

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[47] Ibid., pp. 343-344.

[48] *Style and Music*, pp. 337-352. Meyer reaffirms this belief in "A Pride of Prejudices; Or, Delight in Diversity," in *Music Theory Spectrum*, Vol. 13, No. 2, Fall 1991; pp. 241-251.

[49] *Style and Music*, chapter six.

[50] See *Style and Music*, chapter seven. Also see chapters four and five of this study.

[51] These "natural" means include the secondary parameters, since they are more readily understood by those without knowledge of musical syntax and form. See *Style and Music*, pp. 208-209.

[52] *Music, the Arts, and Ideas* (1994), p. 347.

cites the ubiquitous properties of much popular music: regular beat, simple textures, dynamic extremes, and simple, repeated harmonic progressions.[53]

In a statement that may hold important implications for the future of musical disciplines, Meyer suggests that egalitarianism may weaken, or even destroy the canon of musical works. This would occur, he believes, when value judgments about art works are no longer easily made. In a culture that values equality, who decides which work is held up as great, and which is not? In Meyer's words, "privileging *any* work or style is nonegalitarian."[54] Thus, in Meyer's way of thinking, we are a culture that is like

> 'a swarm of bees, where every individual bee is flying furiously, first in one direction and then in another, while the swarm as a whole is either at rest or sails slowly through the air.' Such a culture is atemporal and nonlinear, pluralistic, eclectic, and inclusive. The swarm can readily include contemporary Schnittkian, Reichian, and Cageian bees; standard repertory, early music, country music, Javanese gamelan, and rock 'n' roll bees. And just as there will be a plethora of coexisting styles, so there will be a pluralism of coexisting, but generally discrete, audiences and patrons. Those who prefer lieder recitals will seldom attend contemporary music concerts, and neither are likely to be devotees of country and western music.[55]

This equality of musical styles, which effectively levels the playing field of musical criticism, implies that "hard rock is as valuable as New Orleans jazz, New Orleans jazz as valuable as baroque music."[56] If Meyer is right, this sort of artistic egalitarianism is bound to have implications for musical criticism, as well as all levels of music education.

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[53] Ibid.

[54] Ibid., p. 348.

[55] Ibid., p. 349.

[56] Ibid., p. 348.

GLOSSARY

GLOSSARY OF TERMS ASSOCIATED WITH THE WORK OF LEONARD B. MEYER

The following terms are associated with the theoretic work of Leonard B. Meyer and, in some cases, that of his pupils and followers. Title and page numbers indicate primary references in Meyer's works.[1] Other authors' works are found in the bibliography.

Acontextualism. An ideology that denies privileged position to any "artificial" constructs (e.g. social hierarchy, birthrights). Meyer claims that *acontextualism* is a major tenet of Romanticism. (SM, 167)

Affect. Felt emotion, experienced when "instinctive reactions are stimulated that do not gain expression . . . in conduct, emotional expression, or fantasy." Affect is most intense when a tendency to respond—either in behavior or conscious thought—is inhibited. (EMM, 14)

Archetype. A musical structure which, because of its adherence to cognitive constraints or its replicated usage, functions as a class. Various musical instantiations are then perceived in terms of this structure. Examples of archetypes include changing-note melodies, and triadic schemas. See *schema.* (EM, 213; SM, 51)

Axial schema. A melodic pattern consisting of a model, and its mirror, such that the melody's axis-tone is embellished by both upper- and lower-neighbors, with a subsequent return to the axis-tone. (EM, 183; SM, 241)

Bottom-up processing. In schema theory, the mechanism in which activation is from part to whole. Subschemas activate the schema of which they are a part. Also called data-driven processing. (*Schemata: The Building Blocks of Cognition*)

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[1]The following abbreviations are used in the glossary: EMM, *Emotion and Meaning in Music*; MAI, *Music, The Arts, and Ideas*; EM, *Explaining Music*; SM, *Style and Music: Theory, History and Ideology.*

Changing-note schema. One of Meyer's archetypal melodic patterns, and an example of a symmetrical schema; characterized by upper- and lower-neighbor tones surrounding an axis pitch. (EM, 191)

Closure. The point of relative stability in a musical process, resulting from the interaction of some or all musical parameters. (EM, 81)

Cognitive psychology. The branch of psychology dealing with human knowledge and perception. Meyer's work with musical pattern perception owes much to cognitive psychology. (*Grolier's Multimedia Encyclopedia, online edition*).

Competent listener. A listener who has internalized, to one degree or another, the constraints and strategies peculiar to a given style system. It is this competence, and not necessarily explicit theoretical knowledge, that allows a listener to respond to a musical work. (EM, 15, 110)

Complementary schema. A symmetrical melody in which event *a* is mirrored by event *b*. This usually entails similarity in intervallic content, and may include rhythmic similarity. Direction of motion of event *b* is opposite that of event *a*. (EM, 174)

Conformant relationship. A relationship in which musical event *a* is related to musical event *b* by similarity; e.g., the motive represented by $\hat{1}$-$\hat{2}$-$\hat{3}$ would be in conformant relationship with the motive represented by $\hat{3}$-$\hat{4}$-$\hat{5}$. (EM, 44)

Conjunct schemas. Linear melodies, either diatonic, chromatic, or a mixture of the two. These schemas follow the principle outlined in the Law of Good Continuation: "once begun, a linear, conjunct motion implies continuation to a point of relative stability." (EM, 131)

Contextual rules. One of Meyer's three categories of stylistic rules (see also *dependency rules* and *syntactic rules*). Contextual rules are those rules that result from some level of standardization of a musical parameter, short of syntactification; e.g., certain progressions became common in Medieval music, even though they were still governed by the primary rules of modal counterpoint. These progressions are said to

be governed by contextual rules. (SM, 18)

Convention. Musical relationships and processes which are learned by listeners as perceptual habits. Because they are learned, they are intracultural (as opposed to cognitive laws which transcend culture). Examples include cadential formulas (e.g., ii-V-I), and closing figures. (EMM, 116; EM, 206).

Convergence. The point at which two independent processes meet; often associated with bilinear melodies. (EM, 141)

Criticism. The discipline which attempts to point out what is unique about a particular musical work. As such, criticism utilizes the findings of style analysis, but is separate from it. (SM, 26; EM, 9)

Cultural constraints. Stylistic rules and strategies that are intracultural, and not universal.

Dependency rules. One of Meyer's three categories of stylistic rules (see also *contextual rules* and *syntactic rules*). Dependency rules govern musical events whose activity is a result of the syntactic rules of another parameter; e.g., harmony fortuitously generated by the rules (syntactic) of modal organum is said to be governed by dependency rules. (SM, 17)

Dialect. The substyle that results when two or more composers utilize the same or similar rules and strategies. Dialects may be defined by nationality, function, time, etc. (SM, 23)

Disjunct schemas. Melodic patterns which feature either a gap, presumably to be filled, or a non-linear interval (e.g., a third), presumably implying continuation of the pattern to a relatively stable point. Meyer differentiates two major categories of disjunct schemas: gap-fill melodies and triadic melodies. (EM, 144)

Emergent structure. A musical structure that is formed from motivic development and statistical (non-syntactic) processes. Characteristics of this form include openness, mobility, and lack of closure. Meyer believes that the ideology of Romanticism

encourages the creation of emergent structures. (SM, 198)

Expectation. In Meyer's theory of emotions, expectation is the tendency to respond to some sort of musical stimulus. This tendency may be conscious or unconscious, and when inhibited, results in affect. Meyer begins to use the term *implication* for the same general concept in *Explaining Music.* (EMM, 24, 14; EM, 114)

Gap-fill schema. One of the two categories of disjunct schemas; a gap-fill melody is made up of a generating event (a disjunct interval), and its subsequent fill (conjunct motion),usually in the opposite direction. (EM, 145)

Gestält psychology. A branch of psychology that emphasizes the organization of parts into wholes, as it relates to human perception. Meyer bases much of his early work (EMM) on the concepts of Gestält psychology. (*Handbook of General Psychology*)

Idiom. A substyle that characterizes a single composer's oeuvre; a composer's characteristic idiom results from his choice to utilize certain stylistic constraints present in the prevailing musical dialect. Often, idiomatic differentiation is made in reference to time; e.g., early, middle, and late Beethoven. (SM, 24)

Idiolect. See *intraopus structure.*

Idiostructure. The processive aspect of a musical work; that which is defined by nonclosure; this sets idiostructure apart from style structure, which is characterized by closure and stability, and is the aspect of a work that is capable of being replicated. (*Beyond Schenkerism*)

Implication. The expectation generated by a patterned musical event; specifically, that the event will continue in a way predictable by the generating pattern, until a point of relative stability and closure is reached. The term essentially replaced Meyer's earlier term expectation. (EM, 110)

Implication-realization. A concept developed by Meyer, and later named by Eugene Narmour. Patterned musical events imply their own continuation (sometimes several alternate continuations). These implications are then realized, or sometimes left

unrealized, in the balance of the musical work (or section). (EM, 112)

Implied structure. The array of potential relationships left unrealized after a musical work reaches closure. Meyer credits Eugene Narmour with this term. (SM, 29)

Information. In communication theory, information is "an indication of the number of possible choices of messages." (*Random House Dictionary of the English Language*). Meyer drew on information theory to develop his concept of style as a "complex system of probabilities." (MAI, 8)

Information theory. The theory first put forward by Claude Shannon and Warren Weaver in the 1940's, to explain how messages (information) are transmitted, including the effect of noise on the process. Meyer's first essay dealing with the concept came in 1957 with "Meaning in Music and Information Theory."

Instantiation. The way in which a schema is presented in a specific musical context; e.g., the changing-note schema may be instantiated as $\hat{3}$-$\hat{2}$/$\hat{4}$-$\hat{3}$, or more typically as $\hat{1}$-$\hat{7}$/$\hat{2}$-$\hat{1}$. (SM, 50)

Intraopus structure. The processive aspect of a musical work. Intraopus structure concerns the relationships between events in a work. Meyer credits Eugene Narmour with this concept, though Narmour uses the term *idiolect.* (SM, 25)

Intraopus style. The set of replicated elements in a musical work; e.g., Mozart's repeated use of the rapid scalar figure in his *Symphony No. 41*, K. 551 is an element of that work's intraopus style. (SM, 24)

Law of closedness. One of Gestalt theory's basic axioms, the law of closedness states that "where one shape is closed, and the other is open or encloses the first, it is the former that is perceived." (*Handbook of Perception, Vol. One*)

Law of good continuation. All other factors being equal, a pattern, once begun, will tend to continue "in its initial mode of operation." (EMM, 92)

Law of Prägnanz. In Gestalt theory, the axiom stating that the organization of a group of

stimuli "will always be as 'good' as the prevailing conditions allow." (EMM, 86)

Law of proximity. The Gestalt axiom stating that, when several points may be viewed as outlining more than one object, the proximity of the points determines which ones will be perceived as forming a single line or contour. (*Handbook of Perception, Vol. One*)

Law of symmetry. A Gestalt axiom that applies to shapes: if two shapes are present, and the first is more symmetrically formed than the second, it is the first that will be perceived. (*Handbook of Perception, Vol. One*)

Laws. In Meyer's hierarchy of style constraints, laws are universal and transcultural. For the most part, they are psychological; e.g., the Gestalt axioms of pattern perception are laws. (SM, 13)

Meaning. In Meyer's *Emotion and Meaning in Music*, musical meaning derives from a relationship between 1) an object or stimulus (the music), 2) that to which the stimulus points, and 3) the conscious observer (listener). In Meyer's absolutist view, (2) is another musical event, or events, and not an object external to the music (as with referentialism). (EMM, 34)

Metric dissonance. First introduced by Curt Sachs, and later discussed by Grosvenor Cooper and Meyer, metric dissonance occurs when two metrical patterns are crossed, so as to produce a "dissonance" of accented beats. (*The Rhythmic Structure of Music*)

Music theory. The discipline that attempts to discover and codify the principles which lie behind a style's prevailing processes and schemas. (EM, 7)

Parameter. In general terms, "any facet of the world that is conceptualized as being governed by a distinguishable set of constraints." In music, the parameters include: melody, harmony, rhythm, dynamics, timbre, and perhaps texture and even rates of activity. See also *primary parameters* and *secondary parameters.* (SM, 9, 15)

Parametric congruence. The state that occurs when the various musical parameters (melody, harmony, rhythm, etc.) act together to either create closure, or to create instability. Because of their independence, parameters may also be noncongruent in effecting closure. (EM, 81)

Plan-based schema. A musical schema whose structure is not determined by syntactic constraints; e.g., a gap-fill melody is plan-based because, though fill is implied by the generating gap, there is no conventional necessity for it to occur. See *script-based schema.* (SM, 245)

Primary parameters. Those musical parameters capable of segmentation into "discrete, nonuniform relationships." Primary parameters are syntactic in nature, and thus may reach definite points of closure. In Western tonal music, primary parameters include melody, harmony, and rhythm. (SM, 14)

Process. The aspect of music that is ongoing in nature, as distinct from form. A given musical event may be both processive and formal, depending upon the hierarchic level being viewed. (EM, 90)

Process reversal. A mode of patterning by which a current musical process is replaced by another. This deflection often precedes closure. (EM, 119; EMM 93)

Processive. A musical pattern that is ongoing in nature. See *process.* (EM, 90)

Provisional realization. The realization of the goal tone of a prior implication, but in a less than satisfactory context; e.g., in a register or harmonic context other than the one called for by the generating event. (EM, 117)

Proximate realization. A realization of a prior implication reached before a melodic cadence, or before the end of the section. (EM, 119)

Psychological constraints. Those stylistic constraints which are the result of transcultural laws; e.g., the law of good continuation. See *laws.* (SM, 13)

Redundancy. In information theory, redundancy refers to the part of a message that "may be eliminated without loss of essential information." (*Webster's Third New Interna-*

tional Dictionary). For Meyer, stylistic redundancy—the repetition of musical works and patterns within those works—is necessary for listeners to assimilate a style system. (MAI, 116)

Remote realization. A realization of a prior implication reached after the generating events have reached closure. See also *proximate realization.* (EM, 119)

Rules. Those stylistic constraints which differentiate large-scale musical periods (Medieval, Renaissance, etc.). Rules are intracultural in nature. (SM, 17)

Schema. In cognitive psychology, a schema is "an active organization of past reactions, or past experience." (*Remembering*). For Meyer, a schema is a pattern which, because of its consonance with both perceptual and conventional (learned) constraints, is frequently replicated, and becomes the basis for further instantiations. (SM, 51)

Script-based schema. A musical schema whose structure is determined syntactically; e.g., changing-note melodies. See also *plan-based schema.* (SM, 245)

Secondary parameters. Those musical parameters characterized by quantitative descriptors. Because they are not syntactic, these parameters are incapable of articulating definitive closure. Secondary parameters, in Western tonal music, include dynamics, texture, timbre, and sonorities. (SM, 15)

Strategies. The modes by which stylistic rules are instantiated. Meyer believes that, while there is a finite number of rules, the number of strategies available is infinite. (SM, 20)

Structural pitches. On a given hierarchic level, those pitches which are salient to an analytical view of the music. The ascertainment of structural pitches is vital as a beginning to objective musical analysis. (EM, 121)

Style. "A replication of patterning . . . that results from a series of choices made within some set of constraints." Listeners assimilate style systems, and are thereby enabled to perceive and experience musical works which belong to those style systems. (SM,

3; MAI, 116)

Style analysis. The discipline which, by examining individual musical works, provides generalizations about the rules and strategies which constrained a composer (or composers). Style analysis is an inductive discipline, moving from the specifics of musical observation, to general principles. (SM, 26)

Symmetrical schemas. Melodic patterns in which one event is mirrored by a succeeding event. The mirroring may be melodic or harmonic. Symmetrical schemas include complementary melodies, axial melodies, and changing-note melodies. (EM, 174)

Syntactic rules. One of Meyer's three categories of stylistic rules (see also ***dependency rules*** and ***contextual rules***). Syntactic rules, for a given musical parameter, specify the array of possible relationships within that parameter. (SM, 19)

Syntactification. The process by which a musical parameter comes to possess its own set of rules—rules that will determine probability relationships within that parameter. Harmony became syntactified, according to Meyer, toward the beginning of the nineteenth century. (SM, 17-19)

Syntax. The element in music whereby successive stimuli are related to each other in ways that permit closure to occur.

Top-down processing. In schema theory, the mechanism in which activation is from whole to part. Existing schemas activate subschemas. Also known as conceptually-driven processing. See also ***bottom-up processing***. (***Schemata: The Building Blocks of Cognition***)

Triadic schema. One of the two disjunct schemas mentioned by Meyer. The generating interval is usually a third, fourth, or fifth, implying eventual formation of a triadic outline. (EM, 157)

APPENDIX A

APPENDIX A
CHRONOLOGY OF LEONARD B. MEYER'S MAJOR SCHOLARLY WORKS

1946 Meyer joins faculty at University of Chicago.

1956 *Emotion and Meaning in Music.* This book grew out of Meyer's doctoral work at the University of Chicago, and deals with the questions of musical perception, meaning, and aesthetic experience. It draws heavily on concepts inherent in Gestalt psychology.

1957 "Meaning in Music and Information Theory" (*Journal of Aesthetics and Art Criticism*). Using information theory as a framework, Meyer again explores musical meaning. He contends that "the psycho-stylistic conditions which give rise to musical meaning . . . are the same as those which communicate information."

1959 "Some Remarks on Value and Greatness in Music" (*Journal of Aesthetics and Art Criticism*). Meyer attempts to answer the question, "What makes music great?" His answer touches on aspects of his thinking that will become more fully developed in his later work; namely, that value and greatness are related to tendencies generated by the music, and the ways in which those tendencies are realized.

1960 *The Rhythmic Structure of Music*, with Grosvenor Cooper. Written with University of Chicago colleague Grosvenor Cooper, this book presents itself as a remedy to the dearth (then) of studies on the rhythmic element of music. It examines rhythm from a multi-hierarchic viewpoint, using the poetic feet of prosody as a tool.

"Art by Accident" (*Horizon*). Meyer critiques artistic works that are created using "chance" techniques. Musical meaning, he says, stems from reference to external objects, or from the intra-musical implications that patterns generate. Thus, works of art that are intentionally created by chance are aesthetically suspect.

1961 "On Rehearing Music" (*Journal of the American Musicological Society*). How can music bear repeated hearings, and remain meaningful? Meyer approaches this question using concepts of information theory, probability, and style change. He concludes that: 1) listeners forget some aspects of a work, and therefore may enjoy it again, and 2) the exhaustion of familiar works and styles creates the impetus for style change. As new styles recondition our listening responses, the old works regain vitality.

1967 *Music, the Arts, and Ideas.* This book contains reprints of three of the articles

listed above (1957, 1959, and 1961), as well as several more chapters. As is true of much of Meyer's work, it examines the interrelationships of music and culture. *Music, the Arts, and Ideas* contains one of Meyer's most pointed critiques of experimental and complex music.

1973 *Explaining Music: Essays and Explorations.* Meyer examines musical criticism. This, he says, is the attempt to "explain how the structure and process of a particular composition are related to the competent listener's comprehension of it." *Explaining Music* marks Meyer's initial use of the term *implication* to replace what had earlier been *expectation.*

1975 Meyer joins faculty at University of Pennsylvania.

1976 "Grammatical Simplicity and Relational Richness: The Trio of Mozart's G-Minor Symphony" (*Critical Inquiry*). In this essay, Meyer demonstrates that aesthetic value in music is at least partially determined by a complexity of relationships among musical elements, co-existing with a simplicity of means. It represents something of a clarification (if not a departure) from Meyer's thinking in his article of 1959.

1979 "Toward a Theory of Style" (*The Concept of Style*, ed. Berel Lang). Meyer proposes a definition of style as "a replication of patterning...that results from a series of choices made within some set of constraints." This definition is of paramount importance, as Meyer discusses stylistic constraints (*laws, rules*, and *strategies*) and how they bear upon a composers' choices. This essay will find its way into Meyer's later *Style and Music* (1989).

1980 "Exploiting Limits: Creation, Archetypes, and Style Change" (*Daedalus*). Science has provided the prevailing paradigm for understanding creativity. Thus, Meyer believes, most thinking about creativity has emphasized originality and innovation. In this essay, which presages his later writing (e.g. 1983 below, as well as *Style and Music*), Meyer argues for the existence of *archetypal* patterns in music which are *instantiated* in numerous ways by various composers. Thus, he says, much of artistic creativity involves *exploiting* existing possibilities.

1982 "Process and Morphology in the Music of Mozart" (*Journal of Musicology*). In *Explaining Music*, Meyer had expounded an analytic method he called *normalization*, in which a musical process, although truncated in the actual music, is continued in a theoretical rendition. Now, in this essay, Meyer describes his discovery that, in some of Mozart's late works, this normalization procedure yields an interesting result: the end of the normalized process (closure) is coordinate with the actual end of some morphological unit. Meyer cites examples from several of Mozart's late works, including the *Piano Concerto in C-minor*, K. 491, and the *Prague Symphony*, K. 504.

"Melodic Processes and the Perception of Music," with Burton Rosner (*The*

Psychology of Music, ed. Diana Deutsch). This is one of two essays on melody written in collaboration with Burton Rosner. In this study, Rosner and Meyer identify two archetypal melodies: gap-fill and changing-note. After reviewing the concept of archetypes (see 1980), the authors detail their clinical study in which listeners were asked to identify melodies as to their archetypal source: gap-fill or changing-note.

1983 "Innovation, Choice, and the History of Music" (*Critical Inquiry*). Meyer reasserts his position that creativity does not always involve innovation (see 1980). We are urged to search for the reasons behind composers' choices. These reasons include, not only the style constraints prevalent at the time, but cultural constraints as well. Meyer approaches this subject again in *Style and Music* (1989).

1986 "The Perceptual Roles of Melodic Process, Contour, and Form," with Burton Rosner (*Music Perception*). In this essay, Rosner and Meyer again collaborate on a clinical study. Again, two melodic processes are chosen. This time, they are the *changing-note* pattern and the *linear* pattern. Through experimentation, Rosner and Meyer conclude that, in terms of perceptual importance, melodic process is most influential, followed by contour, and form.

1989 *Style and Music: Theory, History, and Ideology*. Meyer begins with a definition of style (see 1979 above) and proceeds to discuss the ways in which cultural ideology, as well as musical constraints, influence composers' choices. A significant portion of the book is given to a treatise on Romanticism, and its pervasive influence on compositional choice.

1991 "A Pride of Prejudices; Or, Delight in Diversity" (*Music Theory Spectrum*). This is an adaptation of an essay presented by Meyer to the Eleventh Annual Meeting of the Society for Music Theory in 1988. Meyer points out that much of what appears in this article is discussed more fully in *Style and Music*. Specifically, Meyer critiques the idea of Romantic Oneness, demonstrating the ways in which this ideological tenet shows itself, from the music of Webern, to the theories of Schenker.

1992 "Nature, Nurture, and Convention: The Cadential Six-Four Progression" (*Convention in Eighteenth- and Nineteenth-Century Music: Essays in Honor of Leonard G. Ratner)*. After reasserting his belief that "what is crucial is not the origin of musical means but their replication within the oeuvre of a composer or a compositional community," Meyer discusses the role of conventional learning (Nurture), and its counterpart, cognitive constraints (Nature). Using the history of the cadential six-four as an analytic framework, Meyer demonstrates how the increase in its use, followed by a commensurate decrease, may be viewed as a product of both psychological constraints and conventional choices.

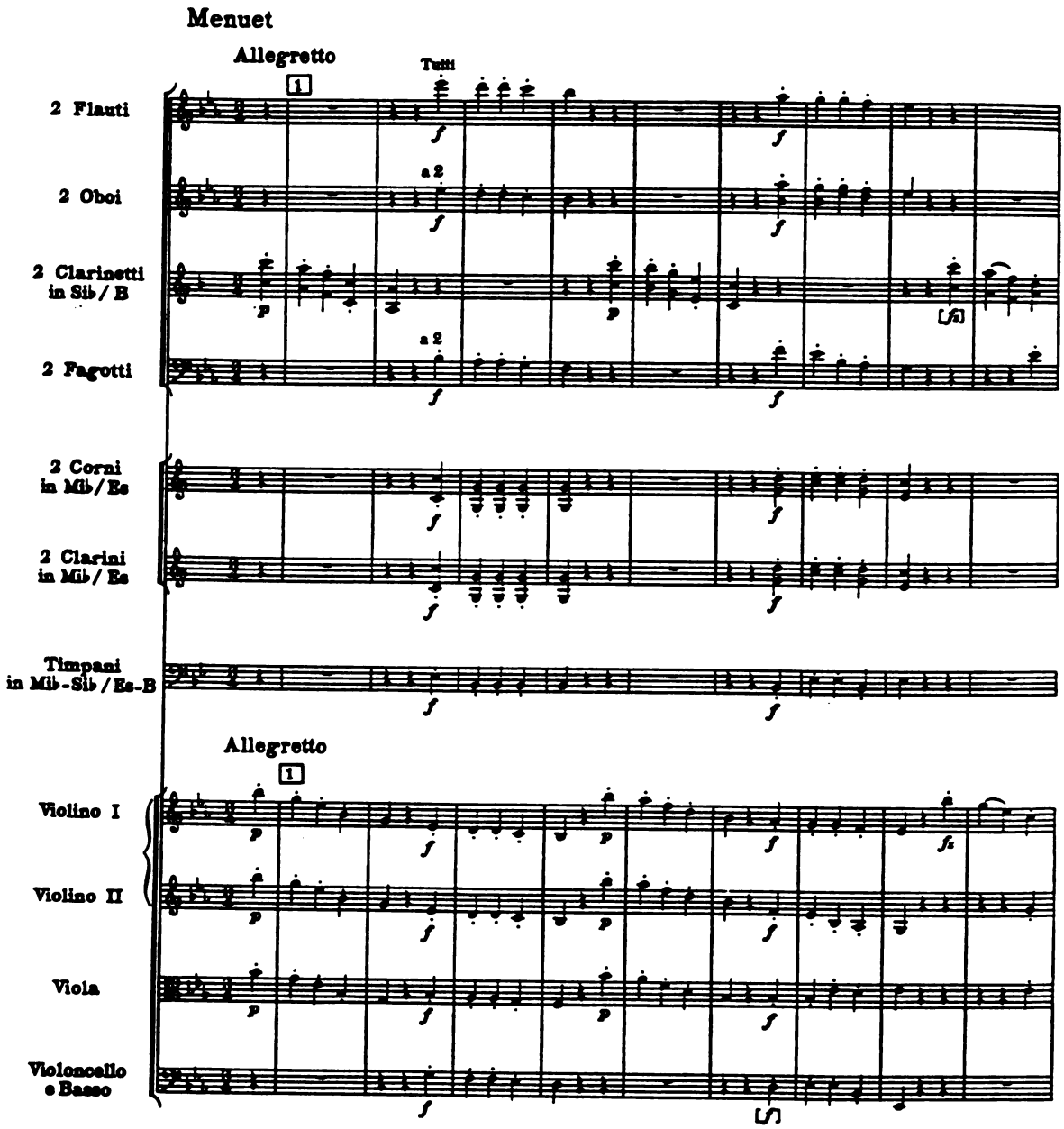
1994 *Music, the Arts, and Ideas* (reprinted). The primary change from the 1967 edition of this book is the addition of a Postlude titled "Future Tense: Music, Ideology,

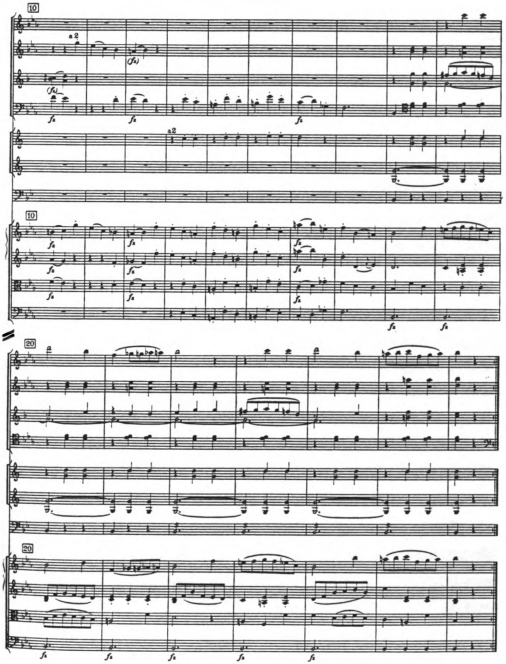
and Culture." In this chapter, Meyer states his belief that ours is a postmodern age in which "the idea that progress is inherent in the processes of history no longer seems credible." This, he says, has resulted in the existence, alongside more traditional beliefs, of noncausal and nonlinear explanations of reality. This, in turn, has encouraged a stylistic pluralism that is characteristic of the twentieth century.

APPENDIX B

APPENDIX B

HAYDN: SYMPHONY NO. 101, MENUET,
measures 1-68.

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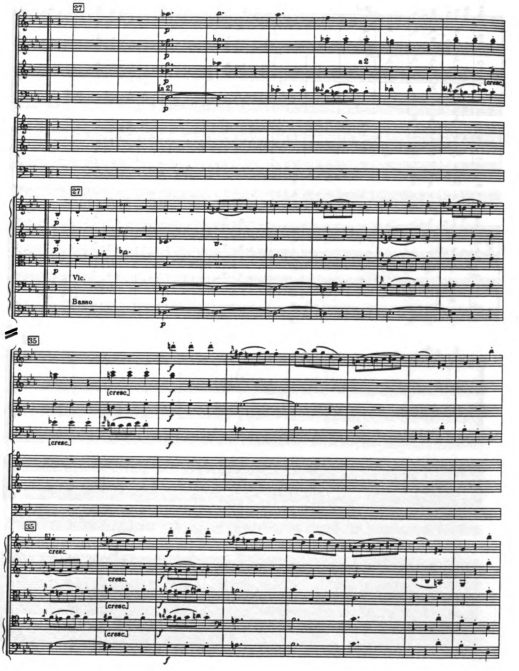
a2
(fz)
fz
10
20
20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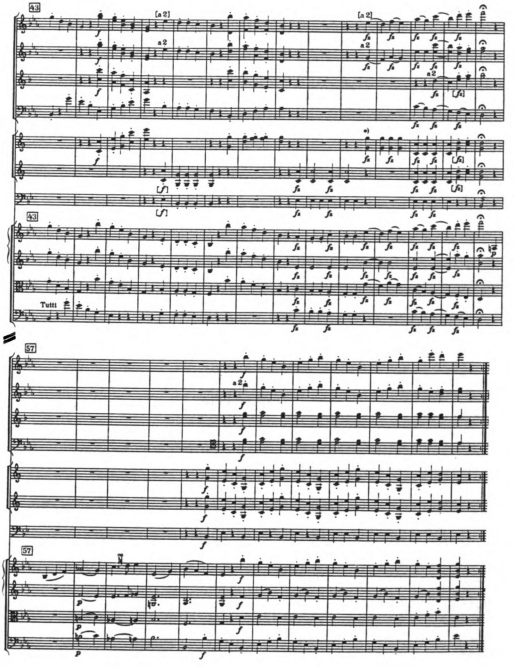
Vlc.
Basso
33
cresc.

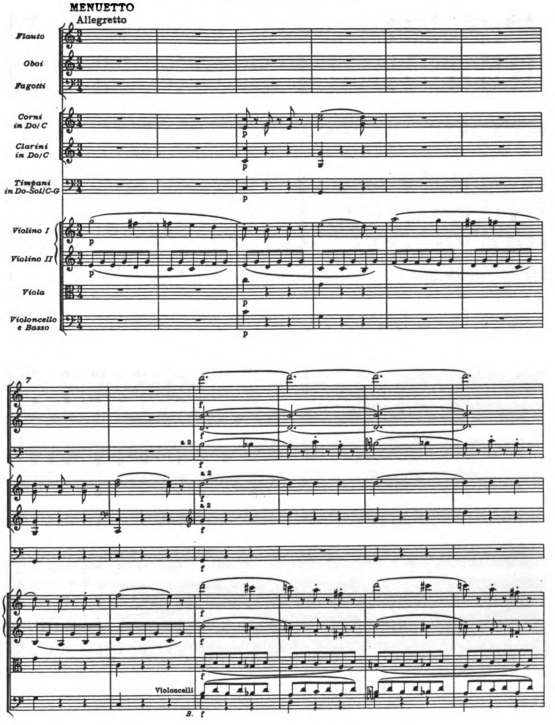

43
[a 2]
[a 2]
43
Tutti
57
57

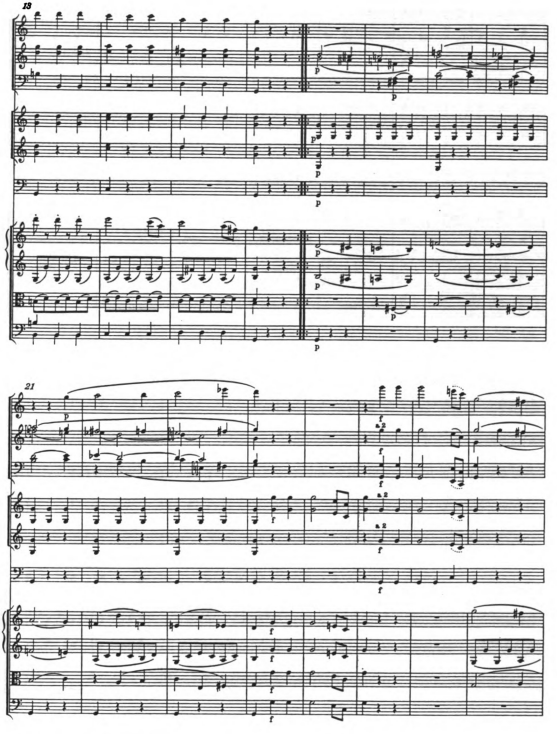
APPENDIX C

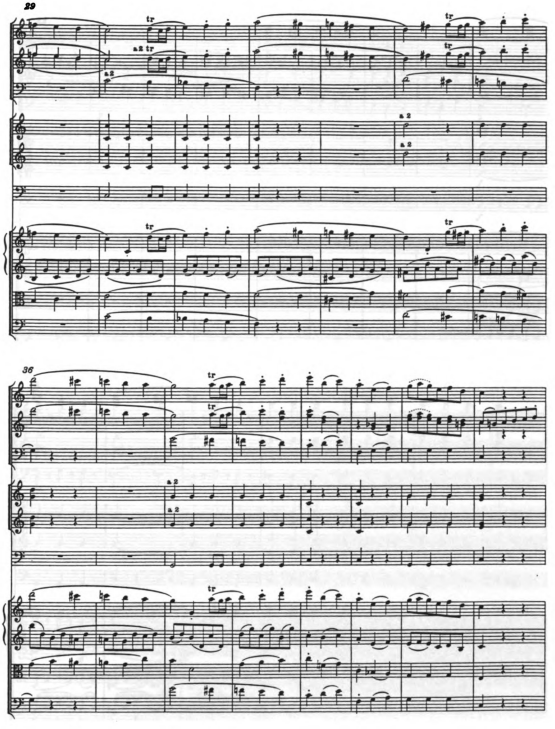
APPENDIX C

MOZART: SYMPHONY NO.41 IN C, K. 551,

MENUET, measures 1-59.




19
21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tr
a2 tr
a2
a2
tr
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36
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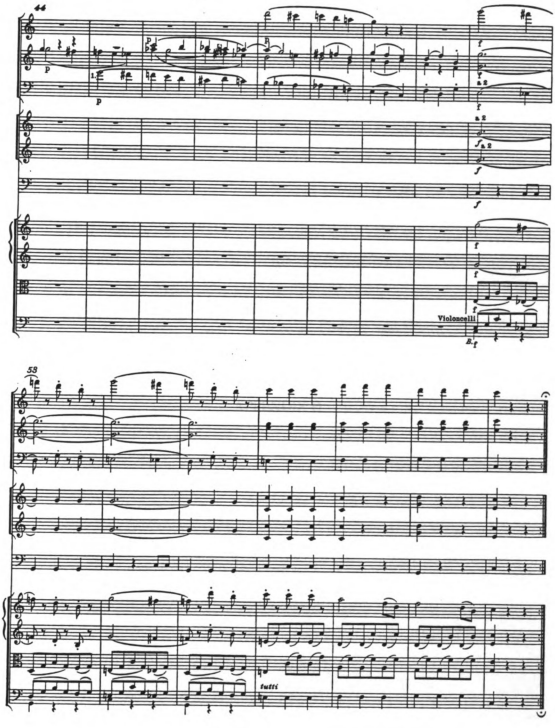
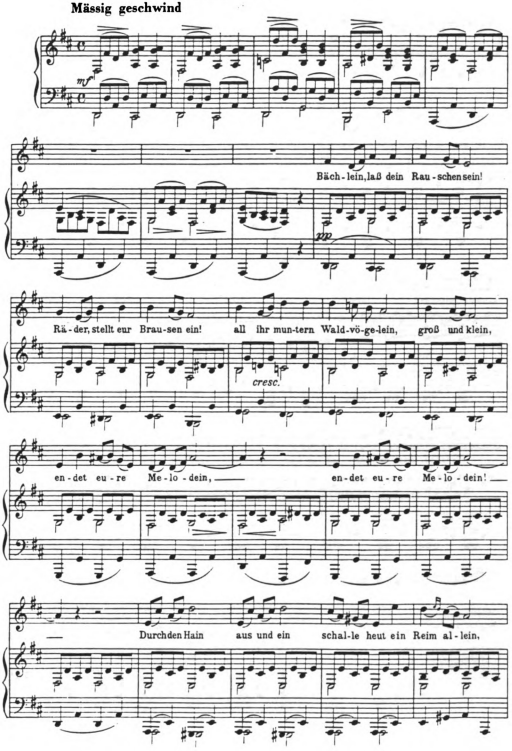
a2
a2
tr

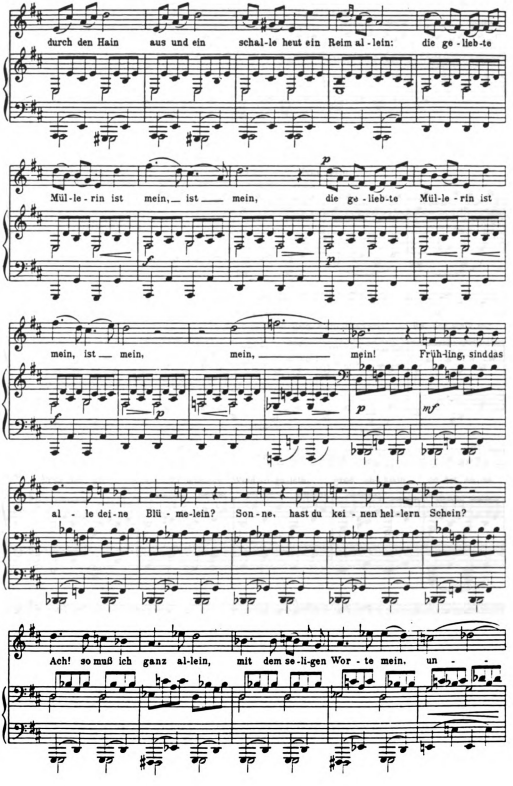

44
Violoncelli
53
tutti

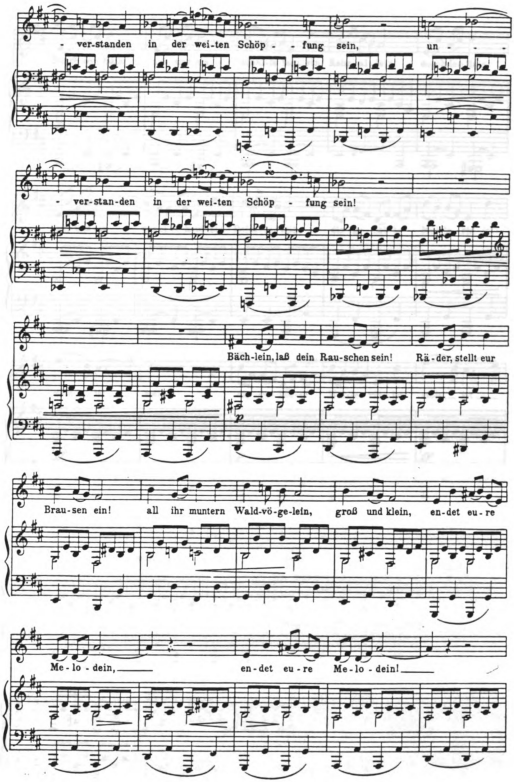
APPENDIX D

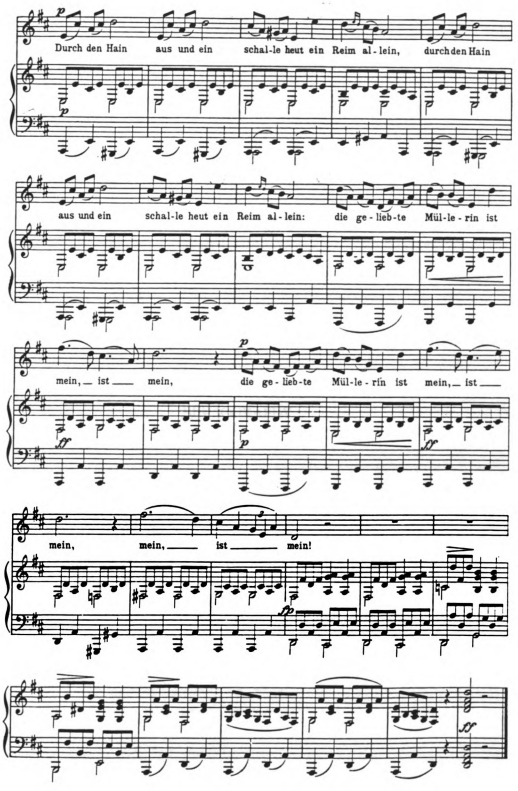
APPENDIX D

SCHUBERT: "MEIN!", FROM *DIE SCHÖNE MÜLLERIN*, D. 795




durch den Hain aus und ein schal-le heut ein Reim al-lein: die ge-lieb-te
Mül-le-rin ist mein, ist mein, die ge-lieb-te Mül-le-rin ist
mein, ist mein, mein, mein! Früh-ling, sind das
al-le dei-ne Blü-me-lein? Son-ne, hast du kei-nen hel-lern Schein?
Ach! so muß ich ganz al-lein, mit dem se-li-gen Wor-te mein, un-


- ver-standen in der wei-ten Schöp - - fung sein, un - - -
- ver-stan-den in der wei-ten Schöp - fung sein!
Bäch-lein, laß dein Rau-schen sein! Rä-der, stellt eur
Brau-sen ein! all ihr muntern Wald-vö-ge-lein, groß und klein, en-det eu-re
Me-lo-dein, en-det eu-re Me-lo-dein!


Durch den Hain aus und ein schal-le heut ein Reim al-lein, durch den Hain
aus und ein schal-le heut ein Reim al-lein: die ge-lieb-te Mül-le-rin ist
mein, ist mein, die ge-lieb-te Mül-le-rin ist mein, ist
mein, mein, ist mein!

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